FOR OFFICIAL USE ONLY

9-1131

ACCESS DB # 202556

PLEASE PRINT CLEARLY

Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: SABITH GHAZI Examiner #: 74141 Date: 9/21/06

Art Unit: 1616 Phone Number: 2-0622 Serial Number: 10/530,903

Location (Bldg/Room#): 4A45 (Mailbox #): 4C70 Results Format Preferred (circle): PAPER DISK

E-Electronic

****

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: 2,2-Disubstituted 1α,25 dihydroxy 19-nor Vit D derivatives

Inventors (please provide full names): YAHIA DA et al.

Earliest Priority Date: 37 10/10/02

MG

Search Topic:

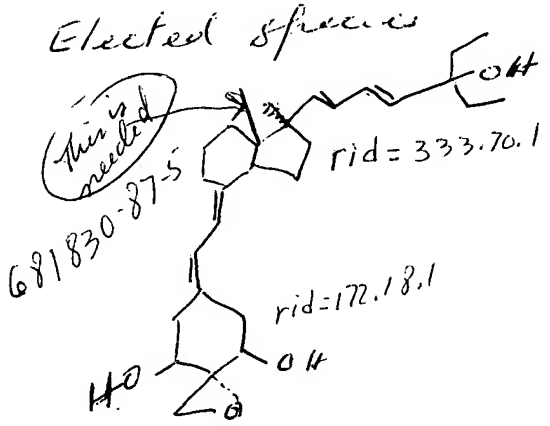
Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only* *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

1-9

cl 9 is method of making.

Elected species



For broad search see Compds of formula-(I)-in cl 1

Please copy of claim attached

****

STAFF USE ONLY	Type of Search	Vendors and cost where applicable
Searcher: _____	____ NA Sequence (#)	____ STN ____ Dialog
Searcher Phone #: _____	____ AA Sequence (#)	____ Questel/Orbit ____ Lexis/Nexis
Searcher Location: _____	____ Structure (#)	____ Westlaw ____ WWW/Internet
Date Searcher Picked Up: _____	____ Bibliographic	____ In-house sequence systems
Date Completed: _____	____ Litigation	____ Commercial ____ Oligomer ____ Score/Length ____ Interference ____ SPDI ____ Encode/Transl ____ Other (specify)
Searcher Prep & Review Time: _____	____ Fulltext	
Online Time: _____	____ Other	

SEARCH HISTORY

=> d his ful

(FILE 'HOME' ENTERED AT 17:24:34 ON 28 SEP 2006)

FILE 'HCAPLUS' ENTERED AT 18:13:10 ON 28 SEP 2006
E YAMADA SACHIKO/AU
L21 267 SEA ABB=ON ("YAMADA SACHIKO"/AU OR "YAMADA SACHIO"/AU)
E SHIMIZU MASATO/AU
L22 219 SEA ABB=ON "SHIMIZU MASATO"/AU
E MIYAMOTO YUKIKO/AU
L23 30 SEA ABB=ON "MIYAMOTO YUKIKO"/AU
L24 2 SEA ABB=ON L21 AND L22 AND L23
SELECT RN L24 1-2

Inventor search - 2 cits

FILE 'REGISTRY' ENTERED AT 18:14:04 ON 28 SEP 2006
L25 116 SEA ABB=ON (32222-06-3/BI OR 546095-46-9/BI OR 546100-84-9/BI OR 681830-58-0/BI OR 681830-59-1/BI OR 681830-60-4/BI OR 681830-61-5/BI OR 737757-31-2/BI OR 897923-11-4/BI OR 130447-37-9/BI OR 134523-84-5/BI OR 141404-09-3/BI OR 147725-62-0/BI OR 147725-63-1/BI OR 159685-68-4/BI OR 160399-81-5/BI OR 17689-66-6/BI OR 192573-37-8/BI OR 195051-26-4/BI OR 2537-48-6/BI OR 2568-33-4/BI OR 2916-76-9/BI OR 590-90-9/BI OR 67-97-0/BI OR 681433-59-0/BI OR 681433-60-3/BI OR 681433-62-5/BI OR 681433-76-1/BI OR 681433-78-3/BI OR 681433-79-4/BI OR 681433-80-7/BI OR 681433-81-8/BI OR 681433-91-0/BI OR 681433-92-1/BI OR 681433-93-2/BI OR 681433-94-3/BI OR 681433-95-4/BI OR 681433-96-5/BI OR 681433-98-7/BI OR 681433-99-8/BI OR 681434-00-4/BI OR 681434-01-5/BI OR 681434-02-6/BI OR 681434-03-7/BI OR 681434-04-8/BI OR 681434-05-9/BI OR 681434-06-0/BI OR 681434-08-2/BI OR 681434-09-3/BI OR 681434-10-6/BI OR 681434-11-7/BI OR 681434-12-8/BI OR 681434-13-9/BI OR 681434-14-0/BI OR 681434-16-2/BI OR 681434-17-3/BI OR 681434-18-4/BI OR 681434-19-5/BI OR 681434-22-0/BI OR 681434-23-1/BI OR 681830-46-6/BI OR 681830-47-7/BI OR 681830-64-8/BI OR 681830-65-9/BI OR 681830-66-0/BI OR 681830-67-1/BI OR 681830-72-8/BI OR 681830-73-9/BI OR 681830-74-0/BI OR 681830-75-1/BI OR 681830-82-0/BI OR 681830-83-1/BI OR 681830-84-2/BI OR 681830-85-3/BI OR 681830-90-0/BI OR 681830-91-1/BI OR 681830-92-2/BI OR 681830-95-5/BI OR 681830-96-6/BI OR 681830-99-9/BI OR 681831-00-5/BI OR 681831-02-7/BI OR 681831-07-2/BI OR 681831-08-3/BI OR 681831-10-7/BI OR 681856-65-5/BI OR 681856-69-9/BI OR 681856-70-2/BI OR 681856-71-3/BI OR 681857-03-4/BI OR 7440-70-2/BI OR 829-85-6/BI OR 848396-75-8/BI OR 849816-81-5/BI OR 849915-28-2/BI OR 86864-60-0/BI OR 884488-07-7/BI OR 897657-83-9/BI OR 897657-84-0/BI OR 897657-85-1/BI OR 897657-86-2/BI OR 897657-87-3/BI OR 897657-88-4/BI OR 897657-89-5/BI OR 897657-90-8/BI OR 897657-91-9/BI OR 897657-92-0/BI OR 897923-05-6/BI OR 897923-06-7/BI OR 897923-07-8/BI OR 897923-08-9/BI OR 897923-09-0/BI OR 897923-10-3/BI OR 900181-62-

FILE 'HCAPLUS' ENTERED AT 18:14:14 ON 28 SEP 2006
L26 2 SEA ABB=ON L24 AND L25
L27 ANALYZE L26 1-2 CT : 10 TERMS

FILE 'REGISTRY' ENTERED AT 18:19:39 ON 28 SEP 2006
L28 1 SEA ABB=ON 681830-95-5/RN
L29 27 SEA ABB=ON 172.18.1/RID AND 333.70.1/RID
L30 12 SEA ABB=ON L29 AND O=4
L31 STRUCTURE 681433-59-0

L32 2 SEA SSS SAM L31
L33 STR L31
L34 1 SEA SSS SAM L33
L35 25 SEA SSS FUL L33
L36 1 SEA ABB=ON 681830-87-5/RN Elected specie - pls note correction on search request form compared to Sh. 113a in claims

FILE 'HCAPLUS' ENTERED AT 18:36:03 ON 28 SEP 2006
L37 1 SEA ABB=ON L36

FILE 'CASREACT' ENTERED AT 18:36:19 ON 28 SEP 2006
L38 0 SEA ABB=ON L36
L39 0 SEA ABB=ON L36 0-CAS React

FILE 'BEILSTEIN' ENTERED AT 18:36:32 ON 28 SEP 2006
L40 0 SEA ABB=ON L36 0-Beilstein

FILE 'USPATFULL' ENTERED AT 18:37:44 ON 28 SEP 2006
L41 1 SEA ABB=ON L36

FILE 'HCAPLUS, USPATFULL' ENTERED AT 18:38:01 ON 28 SEP 2006
L42 2 DUP REMOV L37 L41 (0 DUPLICATES REMOVED) 2 cites in CA Plus, US Patfull (inventors), do not beat priority date!
L43 0 SEA ABB=ON L42 AND (PRD<20021010 OR PD<20021010)

FILE HOME

FILE HCAPLUS

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 28 Sep 2006 VOL 145 ISS 14
FILE LAST UPDATED: 27 Sep 2006 (20060927/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 27 SEP 2006 HIGHEST RN 909000-49-3
DICTIONARY FILE UPDATES: 27 SEP 2006 HIGHEST RN 909000-49-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and

predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE MEDLINE
FILE LAST UPDATED: 27 Sep 2006 (20060927/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 27 September 2006 (20060927/ED)

FILE EMBASE
FILE COVERS 1974 TO 28 Sep 2006 (20060928/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE JAPIO
FILE LAST UPDATED: 3 APR 2006 <20060403/UP>
FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE. USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION ABOUT THE IPC REFORM <<<

FILE JICST-EPLUS
FILE COVERS 1985 TO 26 SEP 2006 (20060926/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 28 Sep 2006 (20060928/PD)
FILE LAST UPDATED: 28 Sep 2006 (20060928/ED)
HIGHEST GRANTED PATENT NUMBER: US7114185
HIGHEST APPLICATION PUBLICATION NUMBER: US2006218687
CA INDEXING IS CURRENT THROUGH 28 Sep 2006 (20060928/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 28 Sep 2006 (20060928/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2006
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2006

FILE CASREACT
Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 24 Sep 2006 VOL 145 ISS 13

New CAS Information Use Policies, enter HELP USAGETERMS for details.

****
*
* CASREACT now has more than 10 million reactions *
*
****

Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BEILSTEIN
FILE LAST UPDATED ON JUNE 16, 2006

FILE COVERS 1771 TO 2006.
FILE CONTAINS 9,606,495 SUBSTANCES

>>>PLEASE NOTE: Reaction Data and substance data are stored in separate documents and can not be searched together in one query. Reaction data for BEILSTEIN compounds may be displayed immediately with the display codes PRE (preparations) and REA (reactions). A substance answer set retrieved after the search for a chemical name, a compounds with available reaction information by combining with PRE/FA, REA/FA or more generally with RX/FA. The BEILSTEIN Registry Number (BRN) is the link between a BEILSTEIN compound and belonging reactions. For mo detailed reaction searches BRNs can be searched as reaction partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

****
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST. *

* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS. *
* FOR PRICE INFORMATION SEE HELP COST *
****

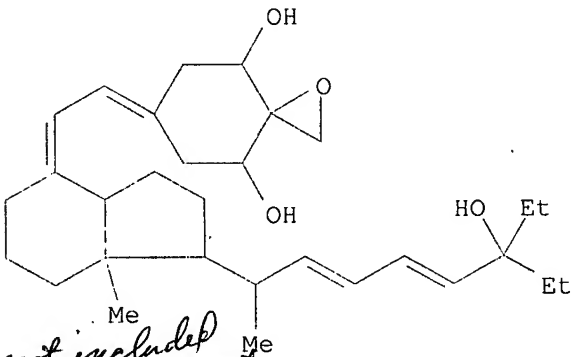
NEW

* **PATENT NUMBERS (PN) AND BABS ACCESSION NUMBERS (BABSAN) CAN NOW BE SEARCHED, SELECTED AND TRANSFERRED.**
* **NEW DISPLAY FORMATS ALLREF, ALLP AND BABSAN SHOW ALL REFERENCES, ALL PATENT REFERENCES, OR ALL BABS ACCESSION NUMBERS FOR A COMPOUND AT A GLANCE.**

DISPLAY OF REQUESTED COMPOUND

=> d l36

L36 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN
RN **681830-87-5** REGISTRY
ED Entered STN: 14 May 2004
CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)
MF C30 H46 O4
SR CA
LC STN Files: CA, CAPLUS, USPATFULL



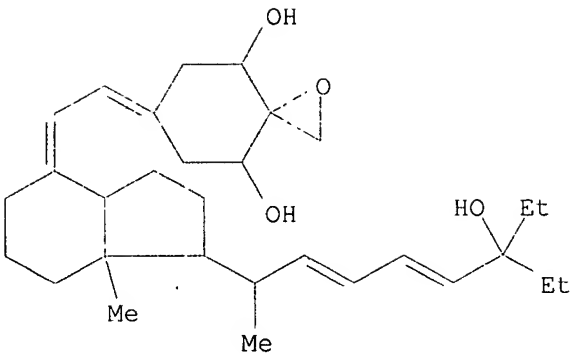
not included on search report form, but needed

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)
ED Entered STN: 14 May 2004

CAPLUS & USPATFULL SEARCH (Results not within priority date requirement)

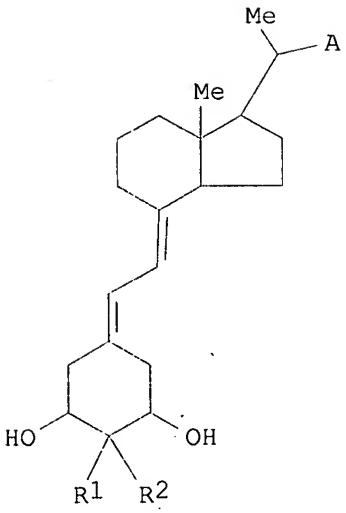
```
=> d que stat l42
L36             1 SEA FILE=REGISTRY ABB=ON  681830-87-5/RN
L37             1 SEA FILE=HCAPLUS ABB=ON  L36
L41             1 SEA FILE=USPATFULL ABB=ON  L36
L42             2 DUP REMOV L37 L41 (0 DUPLICATES REMOVED)

=> d ibib abs hitstr l42 1-2

L42  ANSWER 1 OF 2  USPATFULL on STN
ACCESSION NUMBER:        2006:189339  USPATFULL
TITLE:                   2,2-Di-substituted 1alpha,25-dihydroxy-19-norvitamin d
                         derivative
INVENTOR(S):             Yamada, Sachiko, Hachioji-shi, JAPAN
                         Shimizu, Masato, Shinagawa-ku, JAPAN
                         Miyamoto, Yukiko, Matsudo-shi, JAPAN

                              NUMBER         KIND    DATE
                         ---------------- ------ --------
PATENT INFORMATION:      US 2006160779      A1   20060720
APPLICATION INFO.:       US 2003-530903     A1   20031010  (10)
                         WO 2003-JP13053         20031010
                                                 20050930  PCT 371 date

                                NUMBER         DATE
                         ------------------ --------
PRIORITY INFORMATION:    JP 2002-297366     20021010
                         JP 2003-24183      20030131
DOCUMENT TYPE:           Utility
FILE SEGMENT:            APPLICATION
LEGAL REPRESENTATIVE:    ANDRUS, SCEALES, STARKE & SAWALL, LLP, 100 EAST
                         WISCONSIN AVENUE, SUITE 1100, MILWAUKEE, WI, 53202, US
NUMBER OF CLAIMS:        9
EXEMPLARY CLAIM:         1
LINE COUNT:              4283
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB     A novel 2,2-di-substituted 19-norvitamin D derivative. It is a compound
       represented by the general formula (I) wherein R1 and R2 are the same or
       different and each represents hydroxy and A represents hydrogen, or an
       unsubstituted linear or branched alkyl.    ##STR1##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT  681830-87-5P
       (preparation of 2,2-di-substituted 1α,25-dihydroxy-19-norvitamin D
       derivs. as pharmaceuticals)
RN   681830-87-5  USPATFULL
CN   1-Oxaspiro[2.5]octane-4,8-diol, 6-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-
       octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-,
       stereoisomer (9CI)  (CA INDEX NAME)
```



L42 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:333691 HCAPLUS
DOCUMENT NUMBER: 140:357542
TITLE: Preparation of 2,2-di-substituted 1α,25-dihydroxy-19-norvitamin D derivatives as pharmaceuticals
INVENTOR(S): Yamada, Sachiko; Shimizu, Masato; Iwasaki, Yukiko
PATENT ASSIGNEE(S): Chugai Seiyaku Kabushiki Kaisha, Japan
SOURCE: PCT Int. Appl., 168 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004033420	A1	20040422	WO 2003-JP13053	20031010
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2003271171	A1	20040504	AU 2003-271171	20031010
EP 1559708	A1	20050803	EP 2003-751451	20031010
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2006160779	A1	20060720	US 2005-530903	20050930
PRIORITY APPLN. INFO.:			JP 2002-297366 A	20021010
			JP 2003-24183 A	20030131
			WO 2003-JP13053 W	20031010

OTHER SOURCE(S): MARPAT 140:357542
GI



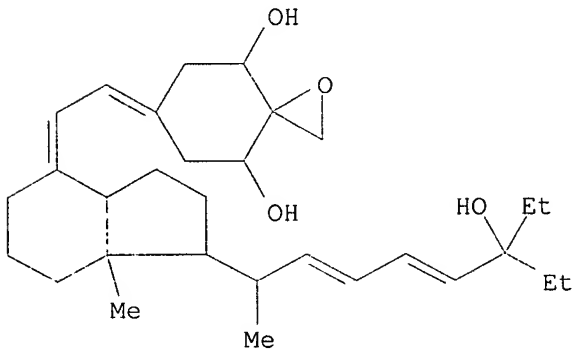
I

AB The title compds. I [R1 and R2 are the same or different and each represents hydroxy, etc.; and A represents hydrogen, unsubstituted linear or branched alkyl, etc.] are prepared The bioactivity of the title compds. was demonstrated. A process for preparing I is disclosed.

IT **681830-87-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of 2,2-di-substituted 1α,25-dihydroxy-19-norvitamin D derivs. as pharmaceuticals)

RN 681830-87-5 HCAPLUS

CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

INVENTOR SEARCH

=> d ibib abs hitstr l26 1-2

L26 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:505971 HCAPLUS
DOCUMENT NUMBER: 145:201953
TITLE: Analogs of 1α,25-dihydroxyvitamin D3 with high potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation: Synthesis and biological evaluation of 2-substituted 19-norvitamin D analogs
AUTHOR(S): Shimazaki, Mika; **Miyamoto, Yukiko**; Yamamoto, Keiko; **Yamada, Sachiko**; Takami, Masamichi; Shinki, Toshimasa; Udagawa, Nobuyuki; **Shimizu, Masato**
CORPORATE SOURCE: Institute of Biomaterials and Bioengineering Tokyo Medical and Dental University, Chiyoda-ku, Tokyo, 101-0062, Japan
SOURCE: Bioorganic & Medicinal Chemistry (2006), 14(13), 4645-4656
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In our previous papers, we found that introduction of a substituent at C(2) into 1α,25-dihydroxy-19-norvitamin D3 (2a) caused dramatic changes in binding affinity for the vitamin D receptor (VDR) and in transcriptional activity compared with the parent compound To investigate the broad biol. activity of 2-substituted 19-norvitamin D analogs, we synthesized two new (20S)-2-hydroxyethylidene-19-norvitamin D derivs. (3b and 4b) and a total of 16 A-ring-modified analogs including 3b and 4b were tested for the following in vitro and in vivo biol. activities: (1) affinity for the VDR, (2) transcriptional activity, (3) osteoclast formation, (4) bone calcium mobilization in rats, and (5) effects on differentiation of dendritic cells (DCs). The biol. effects of the analogs were compared with those of 1α,25-dihydroxyvitamin D3 (1a) and 2MD, which is being developed for the treatment of osteoporosis. The efficacy of the (20S)-19-norvitamin D analogs with 2-hydroxyethylidene, 2-hydroxyethoxy, and 2-Me moieties (3b, 5b, 6b, and 9b) was more than 10-fold stronger than that of 1a with respect to transcriptional activity, ability to induce osteoclast formation, and ability to inhibit CD86 expression, a marker of mature DCs, and was similar to that of 2MD. The (20S)-2β-hydroxyethoxy derivative 6b was 2 orders of magnitude more active than 1a and approx. twice as potent as 2MD in preventing CD86 production The 2-epoxy derivs. 7 and 8 were relatively poor ligands for the VDR and exhibited activity lower than that of the natural hormone 1a.

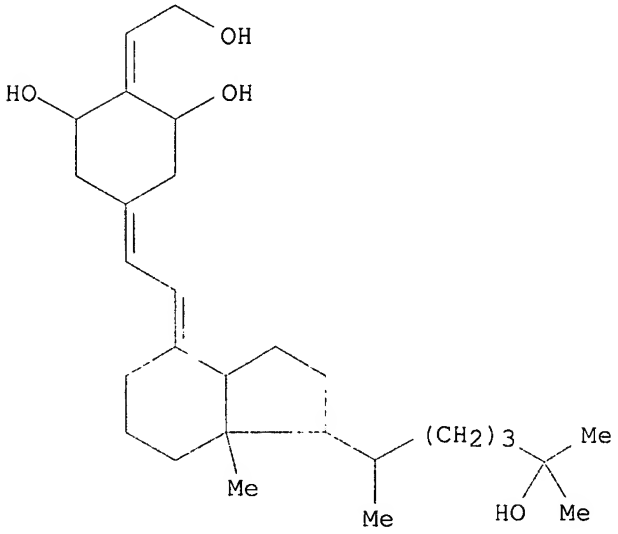
IT **7440-70-2**, Calcium, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(dihydroxyvitamin D3 analogs with potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation)
RN 7440-70-2 HCAPLUS
CN Calcium (8CI, 9CI) (CA INDEX NAME)

Ca

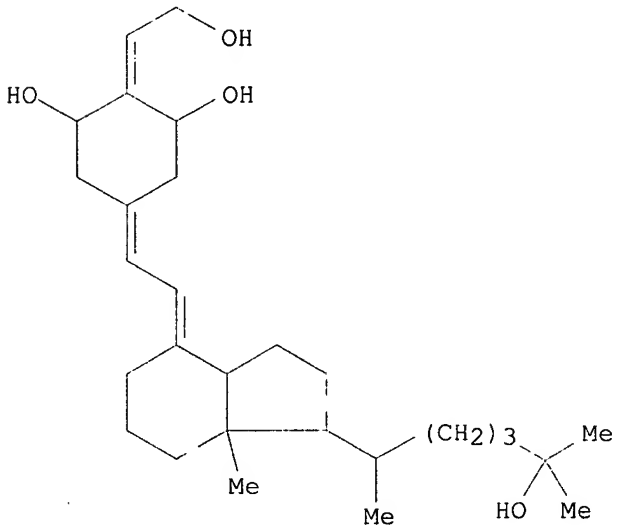
IT **681830-60-4P 681830-61-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(dihydroxyvitamin D3 analogs with potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation)

RN 681830-60-4 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2E,3β,7E,20S)- (9CI) (CA INDEX NAME)



RN 681830-61-5 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2Z,3β,7E,20S)- (9CI) (CA INDEX NAME)

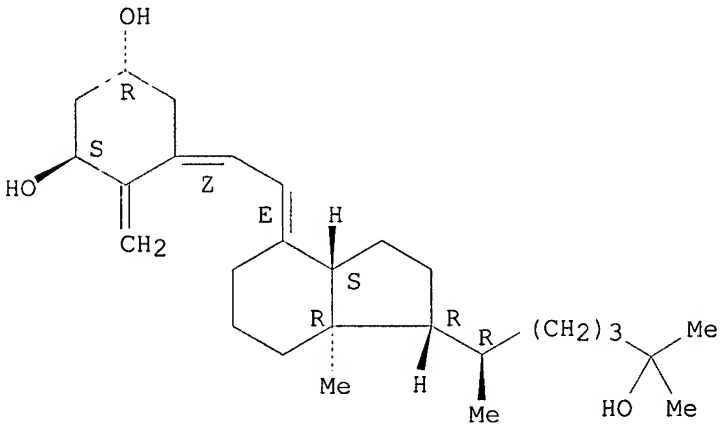


IT **32222-06-3 130447-37-9 134523-84-5 195051-26-4 546095-46-9 546100-84-9 681433-59-0 681830-46-6 681830-47-7 681830-58-0 681830-59-1 681830-95-5**

681830-96-6 681856-65-5 737757-31-2
849816-81-5 849915-28-2 897923-11-4
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(dihydroxyvitamin D3 analogs with potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation)

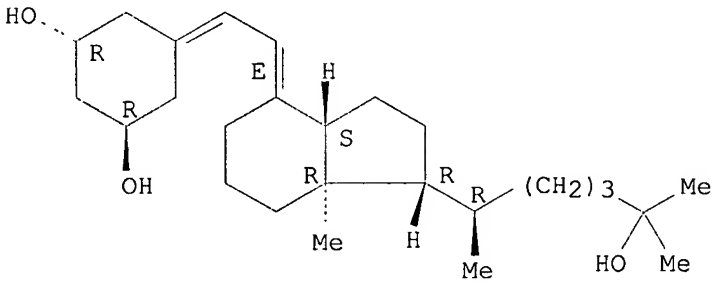
RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



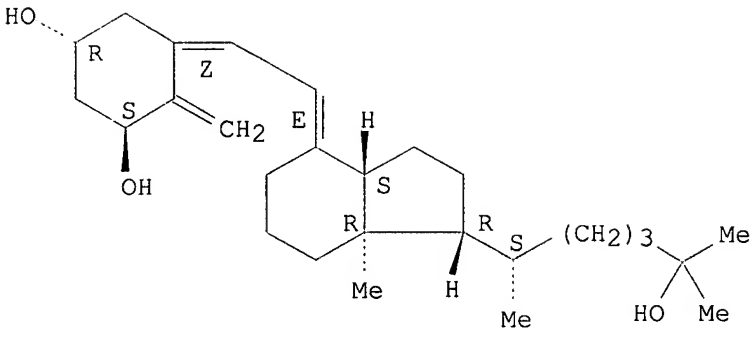
RN 130447-37-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, (1α,3β,7E)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



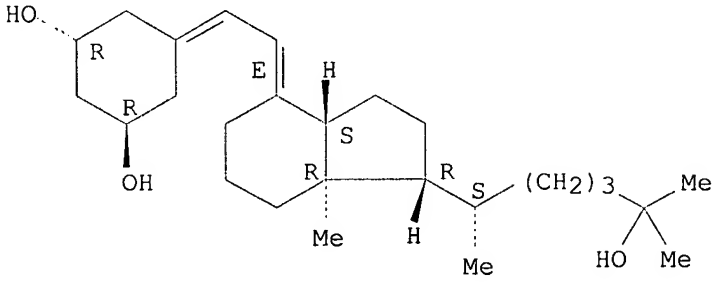
RN 134523-84-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E,20S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

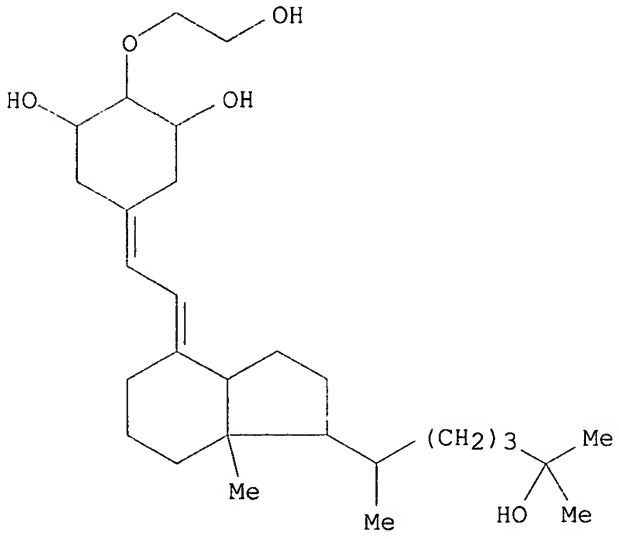


RN 195051-26-4 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, (1α,3β,7E,20S)- (9CI) (CA INDEX NAME)

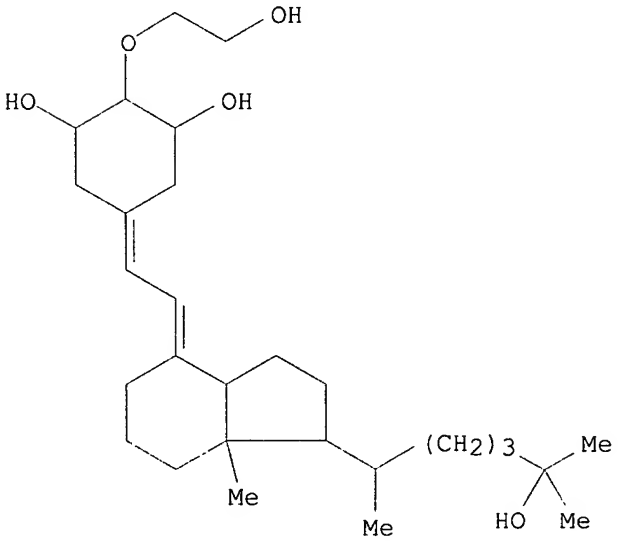
Absolute stereochemistry.
Double bond geometry as shown.



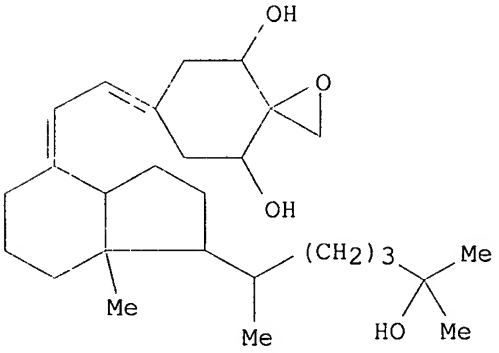
RN 546095-46-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5Z,7E)- (9CI) (CA INDEX NAME)



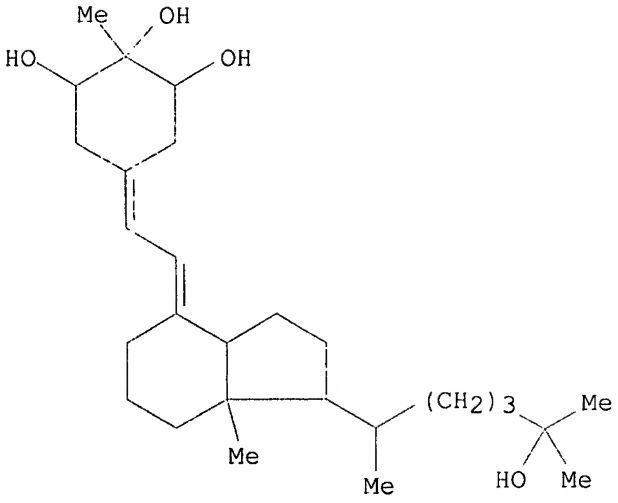
RN 546100-84-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5E,7E)- (9CI) (CA INDEX NAME)



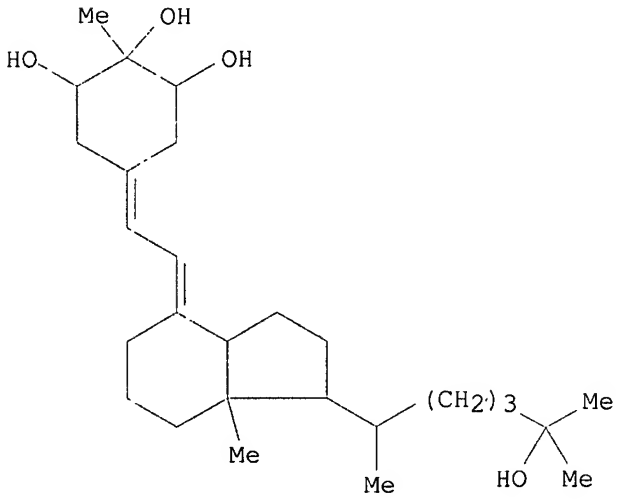
RN 681433-59-0 HCAPLUS
CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[(2E)-[(1R,4aS,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (4R,6S,8R)- (9CI) (CA INDEX NAME)



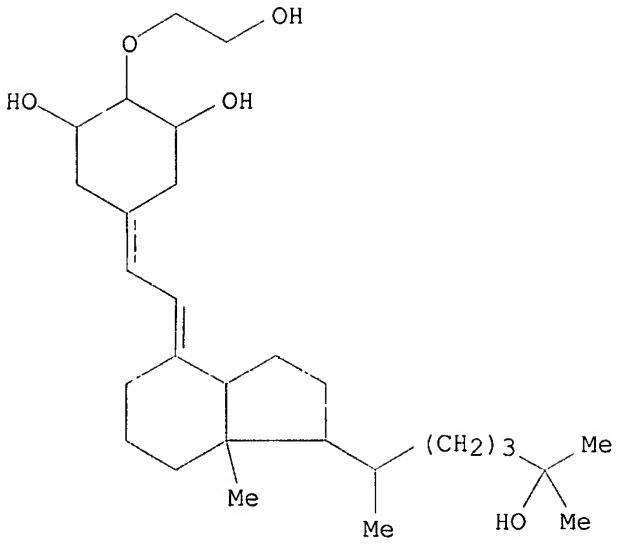
RN 681830-46-6 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,2,3,25-tetrol, 2-methyl-, (1α,2α,3β,5E,7E)- (9CI) (CA INDEX NAME)



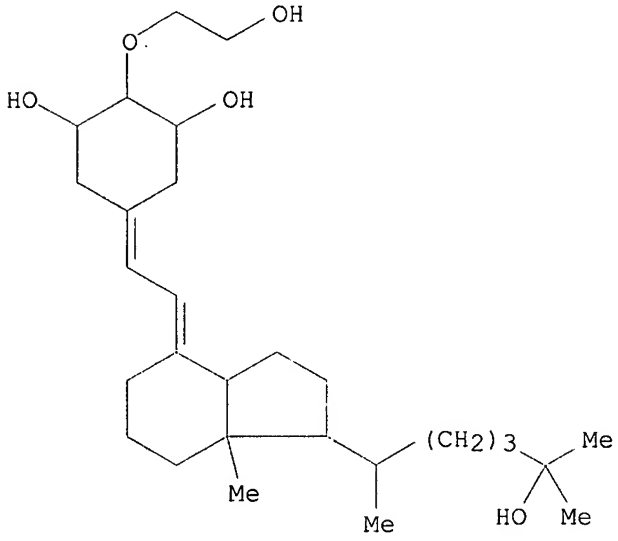
RN 681830-47-7 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,2,3,25-tetrol, 2-methyl-, (1α,2α,3β,5Z,7E)- (9CI) (CA INDEX NAME)



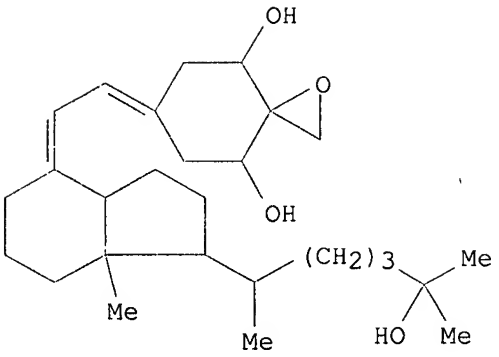
RN 681830-58-0 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5Z,7E,20S)- (9CI) (CA INDEX NAME)



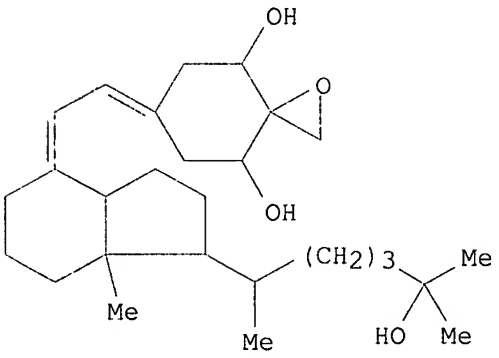
RN 681830-59-1 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5E,7E,20S)- (9CI) (CA INDEX NAME)



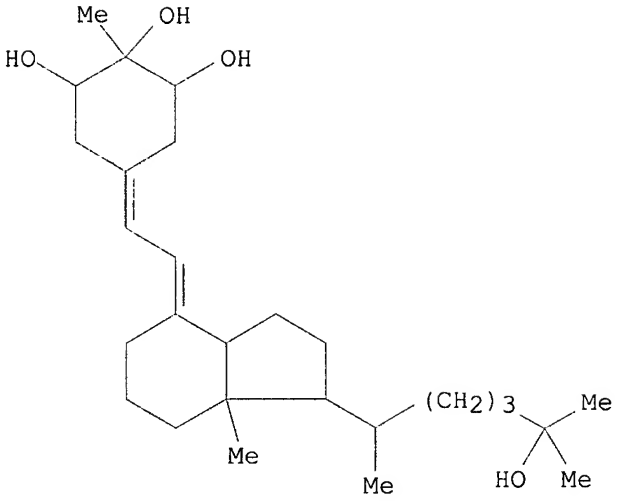
RN 681830-95-5 HCAPLUS
CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[[(1R,3aS,4E,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



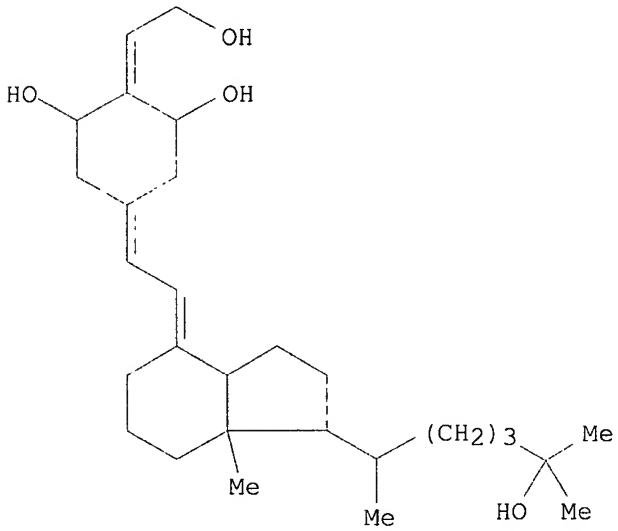
RN 681830-96-6 HCAPLUS
CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[[(1R,3aS,4E,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



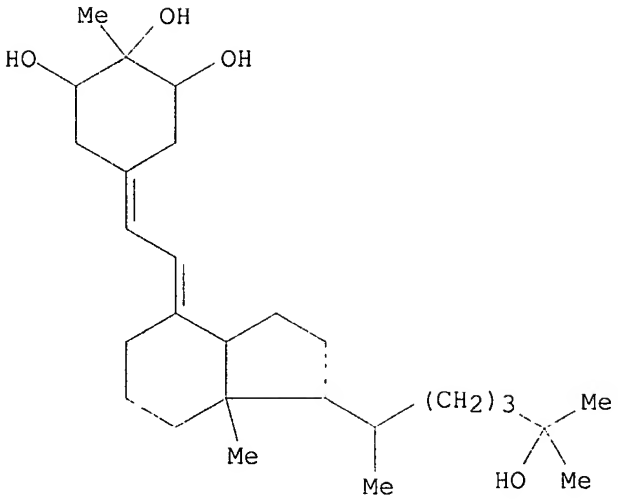
RN 681856-65-5 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,2,3,25-tetrol, 2-methyl-, (1α,2α,3β,5E,7E,20S)- (9CI) (CA INDEX NAME)



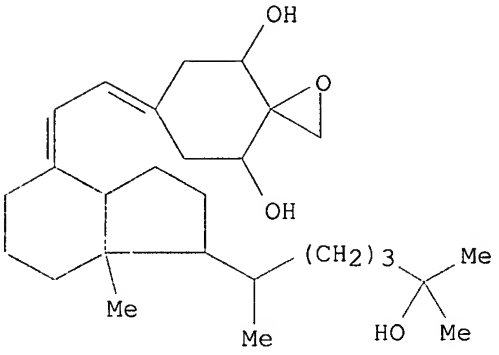
RN 737757-31-2 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2Z,3β,7E)- (9CI) (CA INDEX NAME)



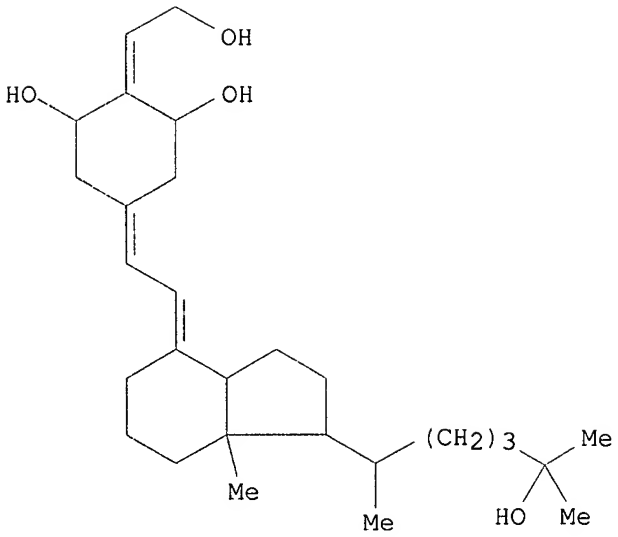
RN 849816-81-5 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,2,3,25-tetrol, 2-methyl-, (1α,2S,3β,7E,20S)- (9CI) (CA INDEX NAME)



RN 849915-28-2 HCAPLUS
CN 1-Oxaspiro[2.5]octane-4,8-diol, 6-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1R)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,3S)- (9CI) (CA INDEX NAME)



RN 897923-11-4 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[[(1S,3aS,7aS)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2S,3R)- (9CI) (CA INDEX NAME)

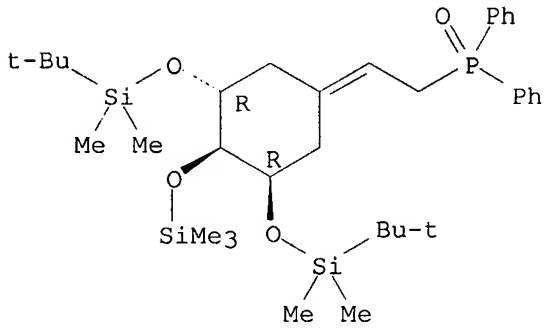


IT **160399-81-5 848396-75-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dihydroxyvitamin D3 analogs with potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation)

RN 160399-81-5 HCAPLUS

CN Phosphine oxide, [2-[3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(trimethylsilyl)oxy]cyclohexylidene]ethyl]diphenyl-, stereoisomer (9CI) (CA INDEX NAME)

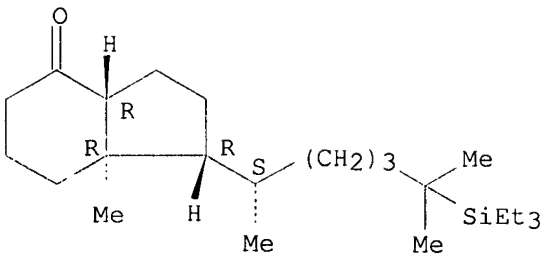
Absolute stereochemistry.



RN 848396-75-8 HCAPLUS

CN 4H-Inden-4-one, 1-[(1S)-1,5-dimethyl-5-(triethylsilyl)hexyl]octahydro-7a-methyl-, (1R,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

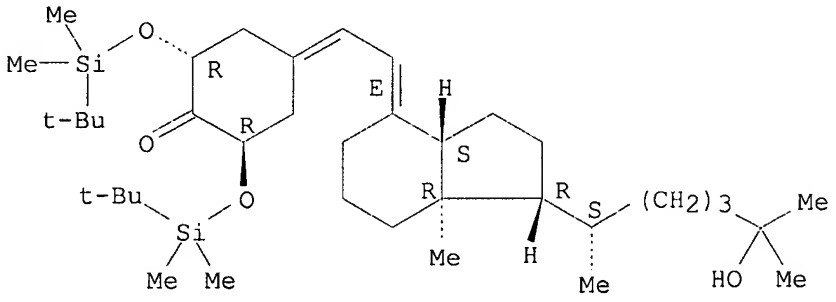


IT **681433-76-1P 681830-99-9P 681831-00-5P**
681831-02-7P 681856-69-9P 681857-03-4P
900181-62-6P 900181-63-7P 903900-67-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(dihydroxyvitamin D3 analogs with potency in induction of osteoclastogenesis and prevention of dendritic cell differentiation)

RN 681433-76-1 HCAPLUS

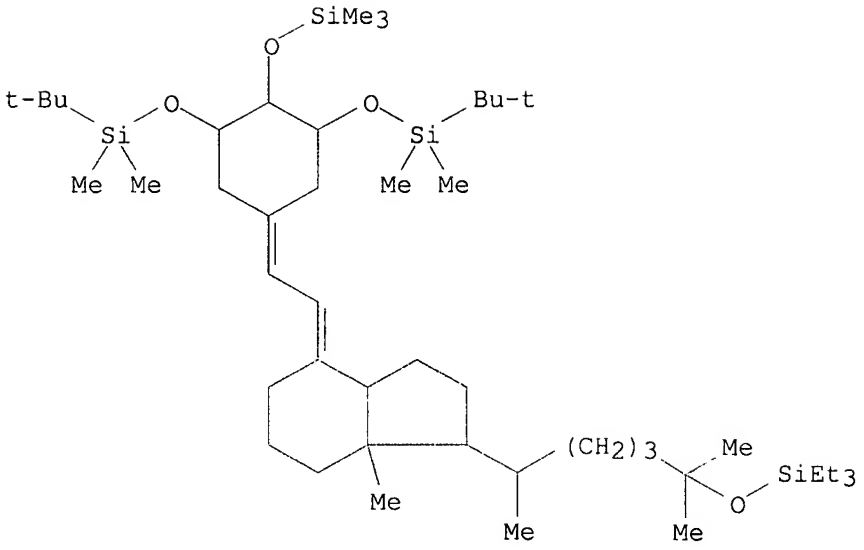
CN Cyclohexanone, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

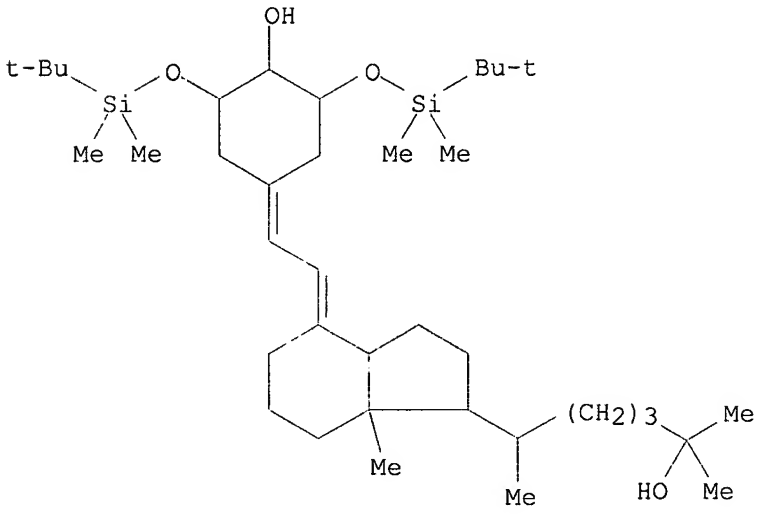


RN 681830-99-9 HCAPLUS

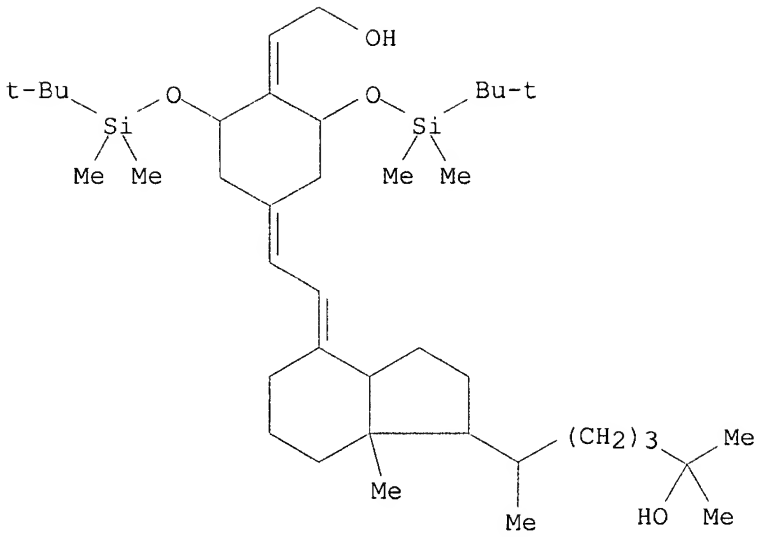
CN Silane, [[(1α,2S,3β,7E,20S)-25-[(triethylsilyl)oxy]-2-[(trimethylsilyl)oxy]-19-nor-9,10-secocholesta-5,7-diene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



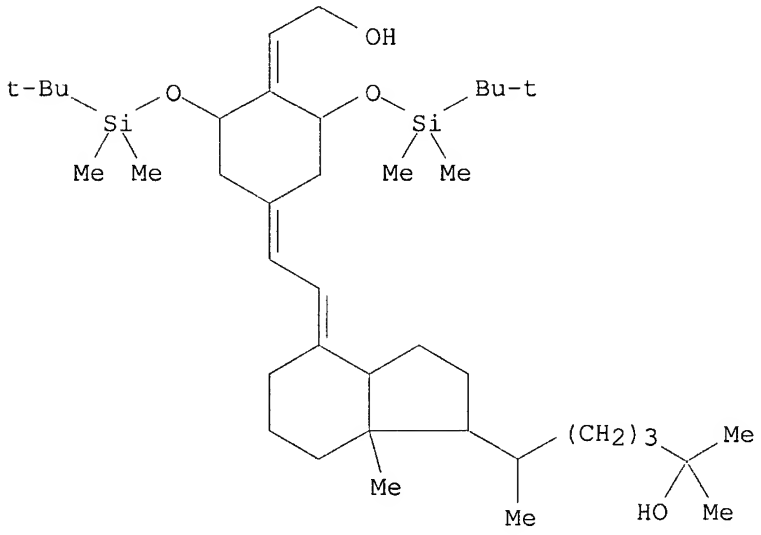
RN 681831-00-5 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-2,25-diol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,2S,3β,7E,20S)- (9CI) (CA INDEX NAME)



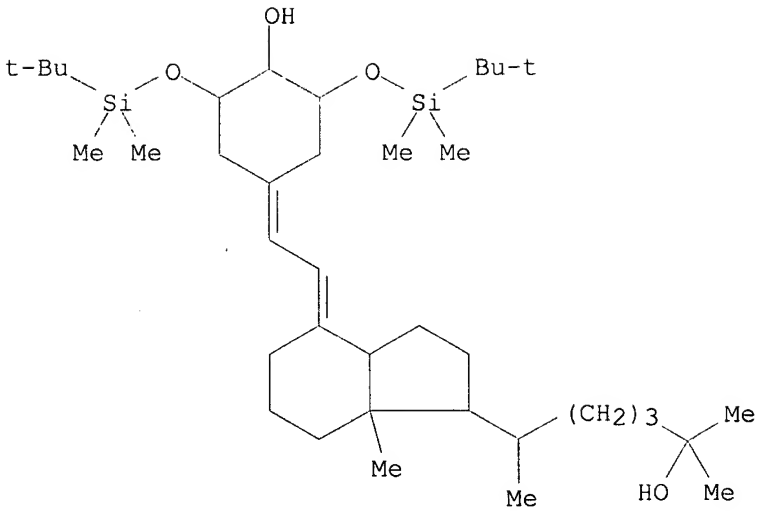
RN 681831-02-7 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-dien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-(2-hydroxyethylidene)-, (1α,2E,3β,7E,20S)- (9CI) (CA INDEX NAME)



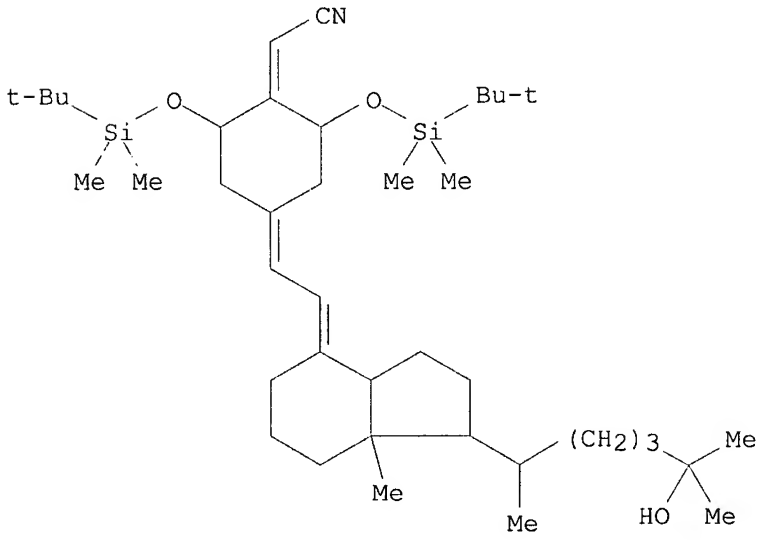
RN 681856-69-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-dien-25-ol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-2-(hydroxyethylidene)-, (1α,2Z,3β,7E,20S)- (9CI) (CA INDEX NAME)



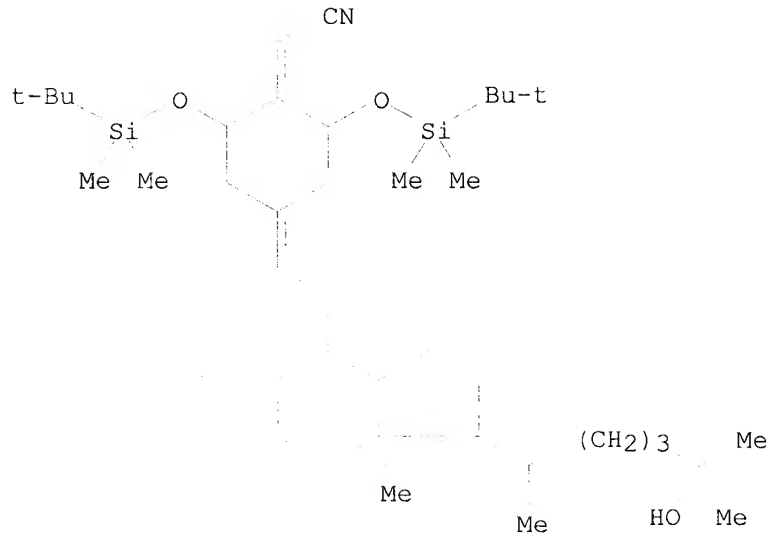
RN 681857-03-4 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-2,25-diol, 1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-, (1α,2R,3β,7E,20S)- (9CI) (CA INDEX NAME)



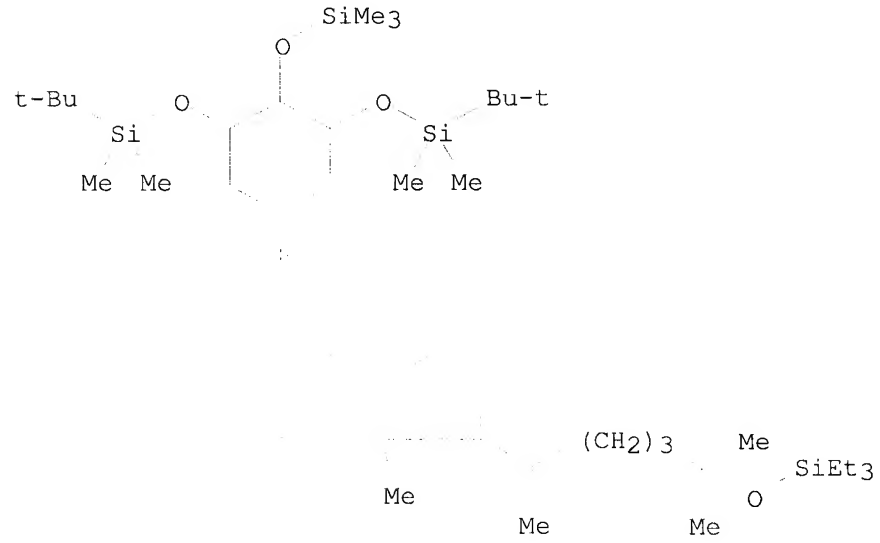
RN 900181-62-6 HCAPLUS
CN Acetonitrile, [(1α,3β,7E,20S)-1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-hydroxy-19-nor-9,10-secocholesta-5,7-dien-2-ylidene]-, (2E)- (9CI) (CA INDEX NAME)



RN 900181-63-7 HCAPLUS
CN Acetonitrile, [(1α,3β,7E,20S)-1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-hydroxy-19-nor-9,10-secocholesta-5,7-dien-2-ylidene]-, (2Z)- (9CI) (CA INDEX NAME)



RN 903900-67-4 HCAPLUS
CN Silane, [[(1α,2R,3β,7E,20S)-25-[(triethylsilyl)oxy]-2-[(trimethylsilyl)oxy]-19-nor-9,10-secocholesta-5,7-diene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



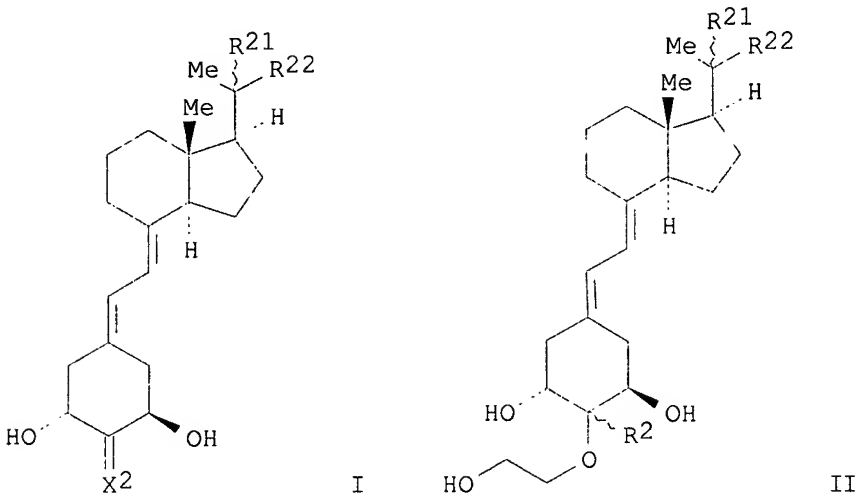
REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:447143 HCAPLUS
DOCUMENT NUMBER: 145:124780
TITLE: Synthesis and biological activities of new 1α,25-dihydroxy-19-norvitamin D3 analogs with modifications in both the A-ring and the side chain
AUTHOR(S): **Shimizu, Masato; Miyamoto, Yukiko;** Kobayashi, Emi; Shimazaki, Mika; Yamamoto, Keiko;

Reischl, Wolfgang; **Yamada, Sachiko**
CORPORATE SOURCE: Laboratory of Medicinal Chemistry, School of Biomedical Science, Tokyo Medical and Dental University, 2-3-10 Kandasurugadai, Chiyoda-ku, Tokyo, 101-0062, Japan

SOURCE: Bioorganic & Medicinal Chemistry (2006), 14(12), 4277-4294
CODEN: BMECEP; ISSN: 0968-0896
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 145:124780

GI



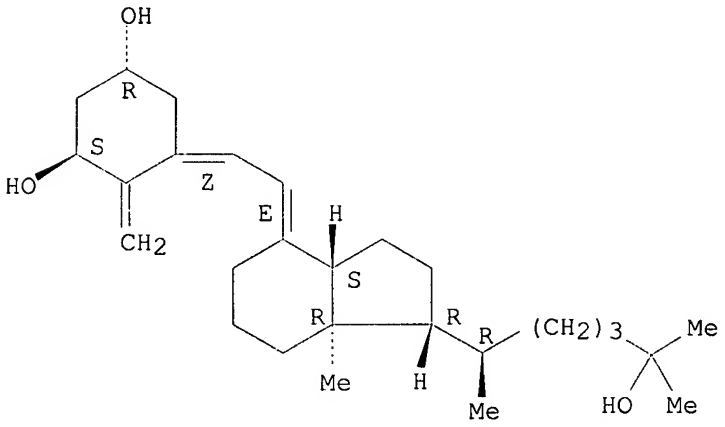
AB In a series of studies on structure-activity relationships of 2-substituted 19-norvitamin D analogs, we found that 1α,25-dihydroxy-19-norvitamin D3 analogs with 2β-hydroxyethoxy or 2E-hydroxyethylidene moieties show strong binding affinity for the vitamin D receptor (VDR) as well as marked transcriptional activity. To further examine the effects of side chain structure on the activity of 2-substituted 19-norvitamin D analogs, we have synthesized new 19-norvitamin D3 analogs with modifications in both the A-ring at the C(2) position and the side chain. The side chains of these analogs contained a double bond between C(22) and C(23) or an oxygen atom at C(22). The biol. activity of the analogs was evaluated in vitro. All the side chain-modified analogs were less active than 1α,25-dihydroxyvitamin D3 and the parent compds. I [X2 = CHCH2OH-(E), -(Z), R21 = β-H, R22 = (CH2)3CMe2OH] and II [R2 = α-, β-H, R21 = β-H, R22 = (CH2)3CMe2OH] possessing a natural 20R-configuration in binding to the VDR, but, except for the (20R)-22-oxa analogs I [X2 = CHCH2OH-(E), -(Z), R21 = α-H, R22 = O(CH2)2CMe2OH] and II [R2 = α-, β-H, R21 = α-H, R22 = O(CH2)2CMe2OH], were significantly more potent in transcriptional activity. Of the side-chain-modified analogs the 2β-hydroxyethoxy- and 2E-hydroxyethylidene-22,24-diene-24a,26a,27a-trihomo analogs showed markedly higher transcriptional activity (25- and 17.5-fold, resp.) compared with 1α,25-dihydroxyvitamin D3.

Elongation of the side chain at the C-24, C-26, and C-27 positions and introduction of a 22,24-diene moiety strongly increased transcriptional activity, as seen in the 20-epi analogs I [X2 = CHCH2OH-(E), -(Z), R21 = α-H, R22 = (CH2)3CMe2OH] and II [R2 = α-, β-H, R21 = α-H, R22 = (CH2)3CMe2OH].

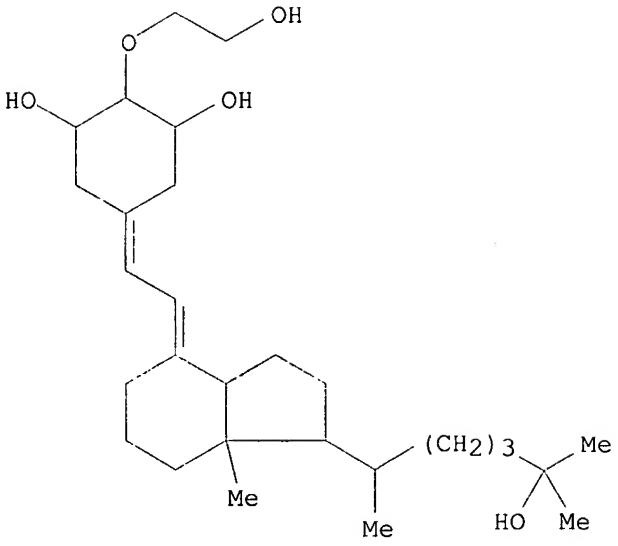
IT **32222-06-3**, 1α,25-Dihydroxyvitamin D3 **546095-46-9** **546100-84-9** **681830-58-0** **681830-59-1** **681830-60-4** **681830-61-5** **737757-31-2** **897923-11-4**
RL: PAC (Pharmacological activity); BIOL (Biological study)
(synthesis and vitamin D receptor binding activity of new 1α,25-dihydroxy-19-norvitamin D3 analogs with modifications in both the A-ring and the side chain)

RN 32222-06-3 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-triene-1,3,25-triol, (1α,3β,5Z,7E)- (9CI) (CA INDEX NAME)

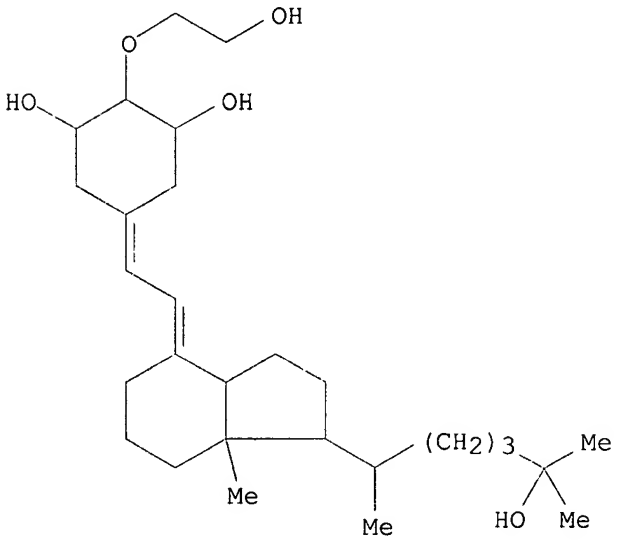
Absolute stereochemistry. Rotation (+).
Double bond geometry as shown.



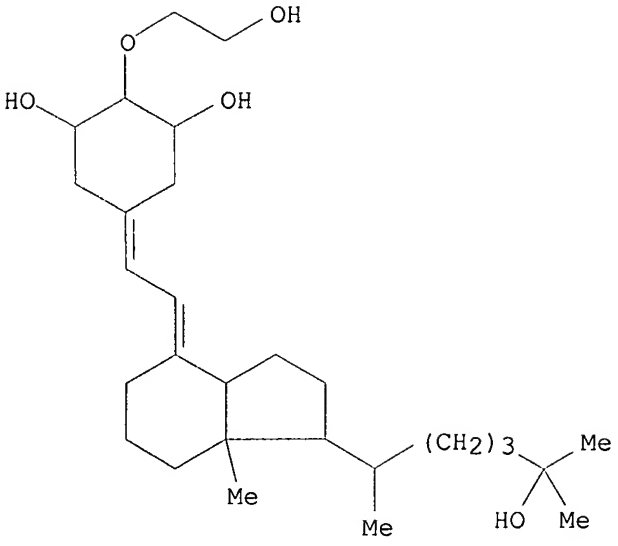
RN 546095-46-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5Z,7E)- (9CI) (CA INDEX NAME)



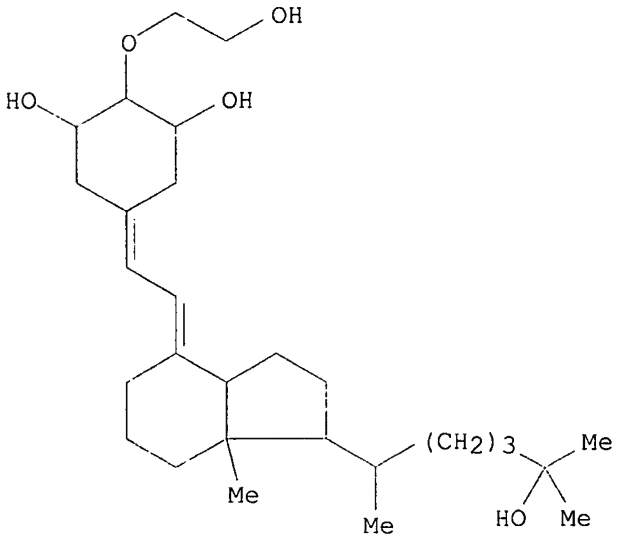
RN 546100-84-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5E,7E)- (9CI) (CA INDEX NAME)



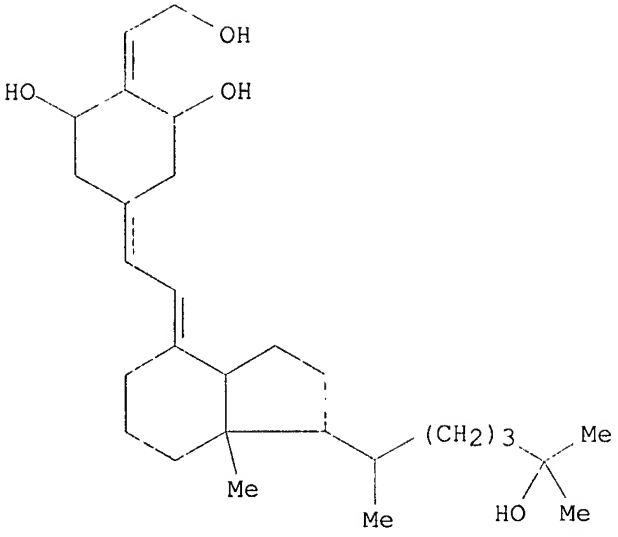
RN 681830-58-0 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5Z,7E,20S)- (9CI) (CA INDEX NAME)



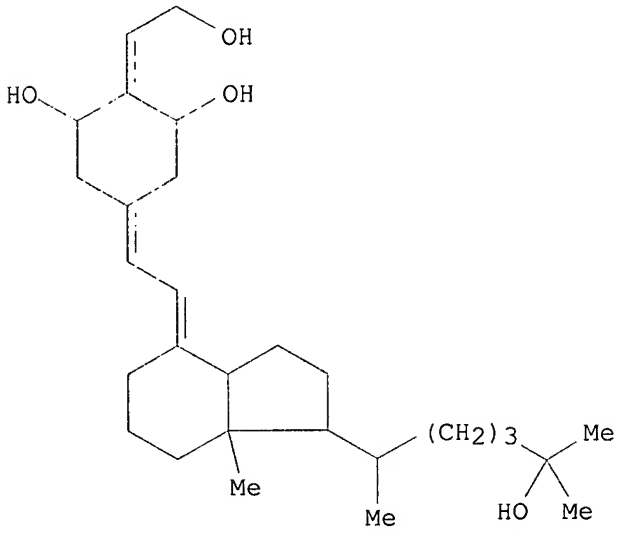
RN 681830-59-1 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5E,7E,20S)- (9CI) (CA INDEX NAME)



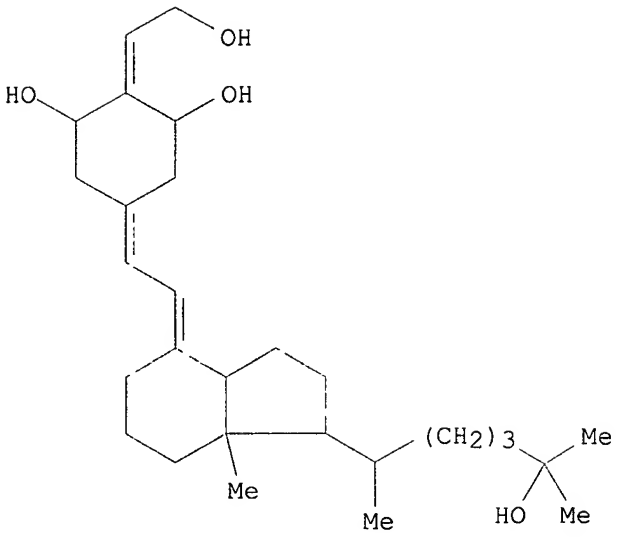
RN 681830-60-4 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2E,3β,7E,20S)- (9CI) (CA INDEX NAME)



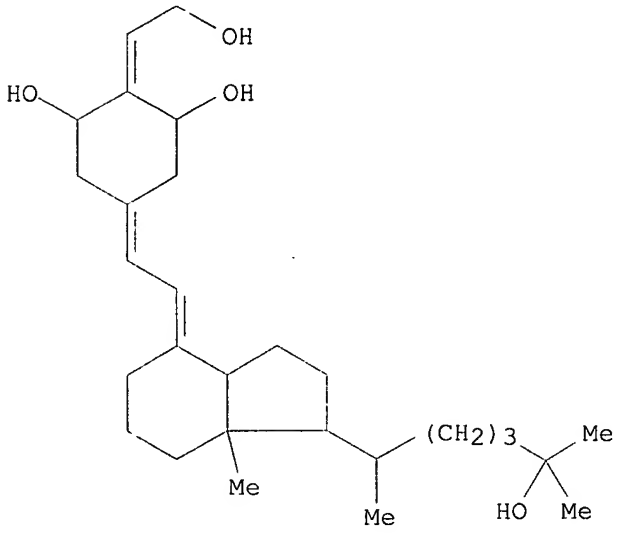
RN 681830-61-5 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2Z,3β,7E,20S)- (9CI) (CA INDEX NAME)



RN 737757-31-2 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7-diene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2Z,3β,7E)- (9CI) (CA INDEX NAME)



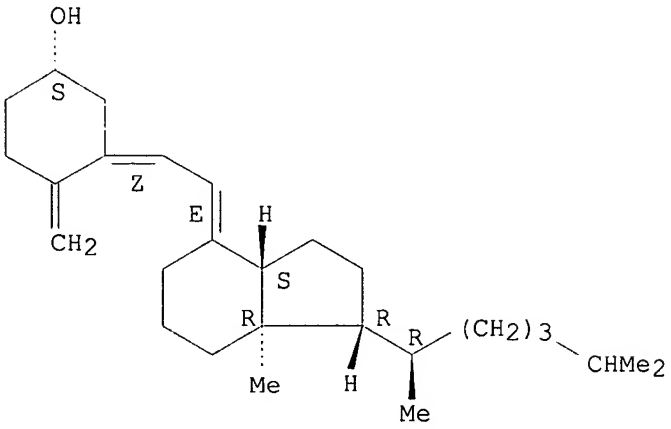
RN 897923-11-4 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[[(1S,3aS,7aS)-octahydro-1-[(1S)-5-hydroxy-1,5-dimethylhexyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2S,3R)- (9CI) (CA INDEX NAME)



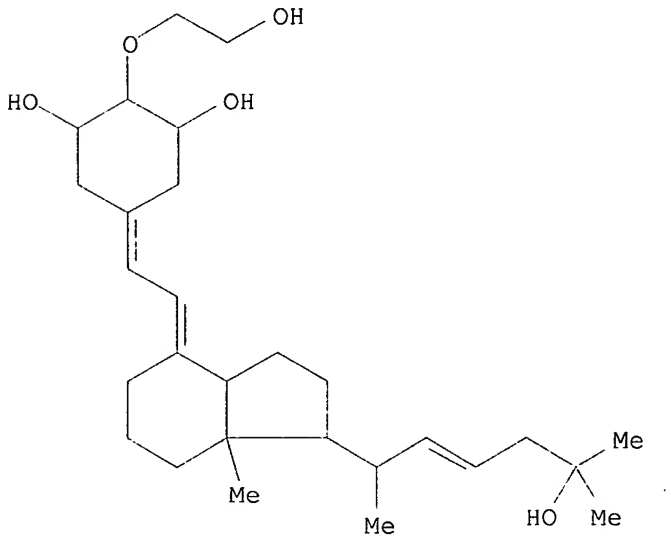
IT **67-97-0DP**, Cholecalciferol, analogs **681830-64-8P**
681830-65-9P 681830-66-0P 681830-67-1P
681830-72-8P 681830-73-9P 681830-74-0P
681830-75-1P 681830-82-0P 681830-83-1P
681830-84-2P 681830-85-3P 897923-07-8P
897923-08-9P 897923-09-0P 897923-10-3P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and vitamin D receptor binding activity of new 1α,25-dihydroxy-19-norvitamin D3 analogs with modifications in both the A-ring and the side chain)

RN 67-97-0 HCAPLUS
CN 9,10-Secocholesta-5,7,10(19)-trien-3-ol, (3β,5Z,7E)- (9CI) (CA INDEX NAME)

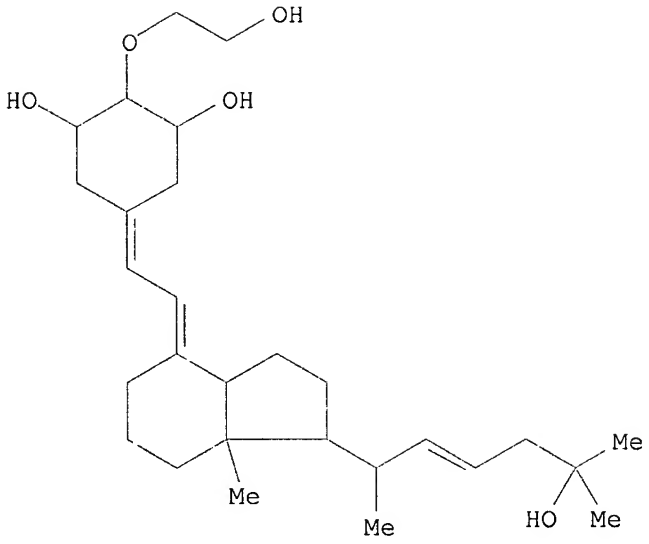
Absolute stereochemistry.
Double bond geometry as shown.



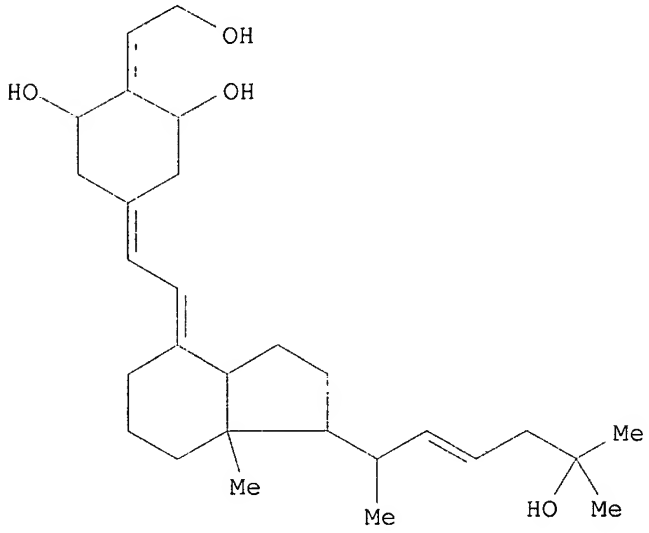
RN 681830-64-8 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7,22-triene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5Z,7E,22E)- (9CI) (CA INDEX NAME)



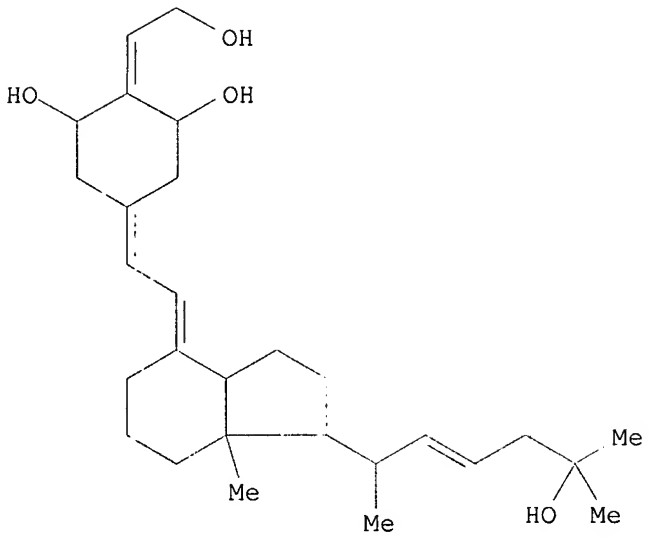
RN 681830-65-9 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7,22-triene-1,3,25-triol, 2-(2-hydroxyethoxy)-, (1α,2α,3β,5E,7E,22E)- (9CI) (CA INDEX NAME)



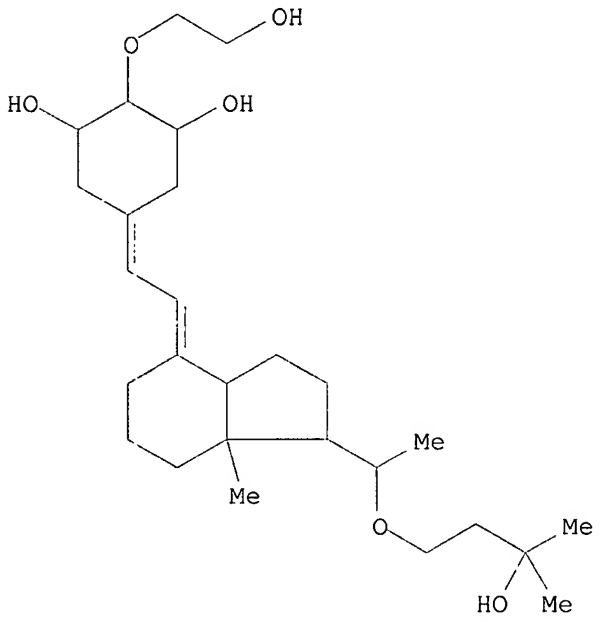
RN 681830-66-0 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7,22-triene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2E,3β,7E,22E)- (9CI) (CA INDEX NAME)



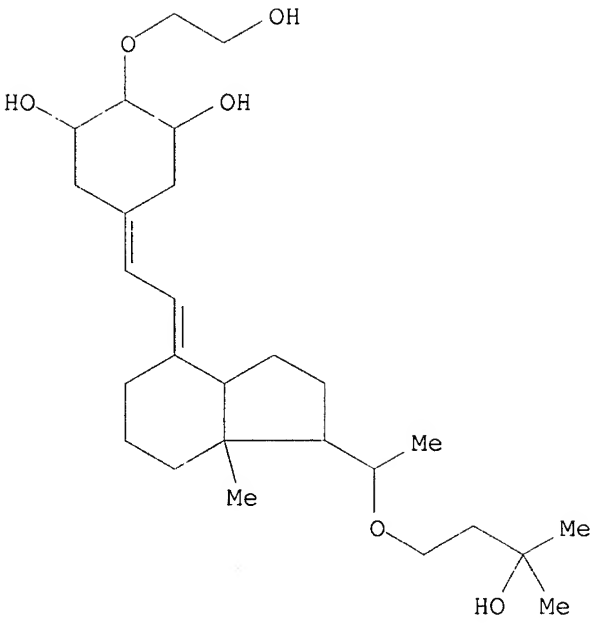
RN 681830-67-1 HCAPLUS
CN 19-Nor-9,10-secocholesta-5,7,22-triene-1,3,25-triol, 2-(2-hydroxyethylidene)-, (1α,2Z,3β,7E,22E)- (9CI) (CA INDEX NAME)



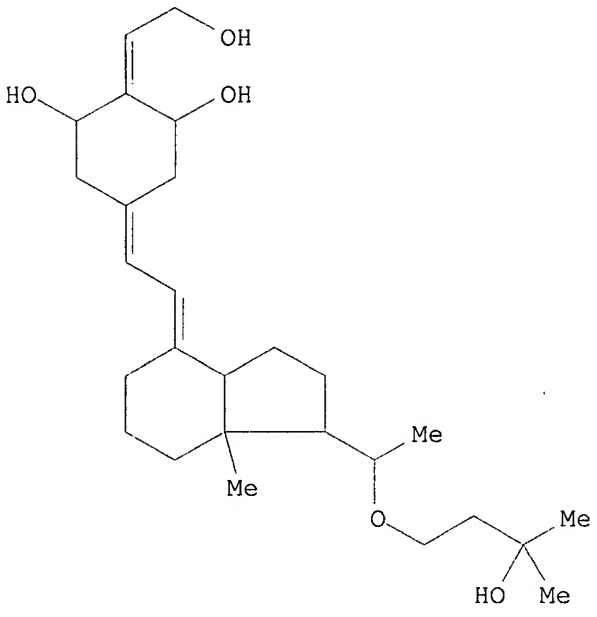
RN 681830-72-8 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethoxy)-5-[[octahydro-1-[1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



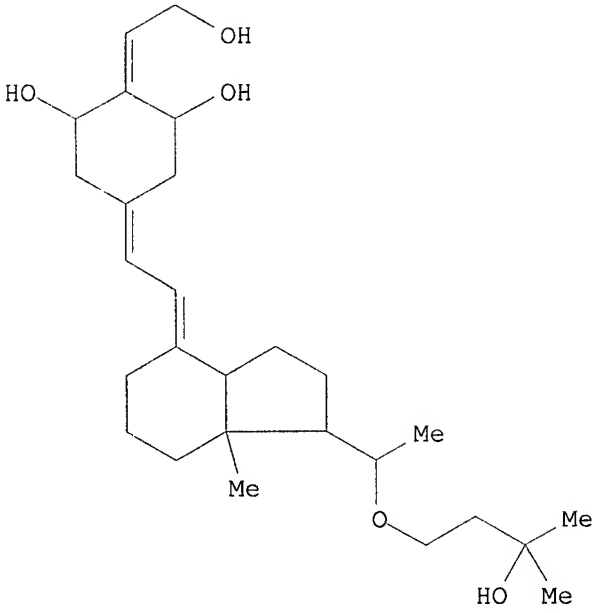
RN 681830-73-9 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethoxy)-5-[[octahydro-1-[1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



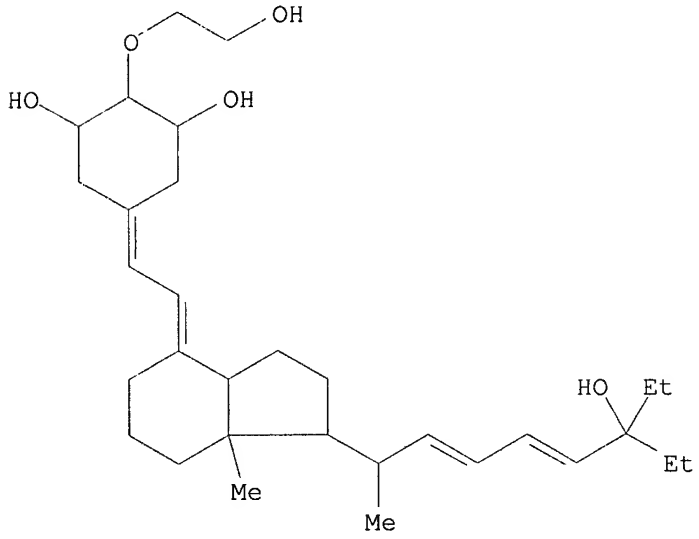
RN 681830-74-0 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[[octahydro-1-[1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



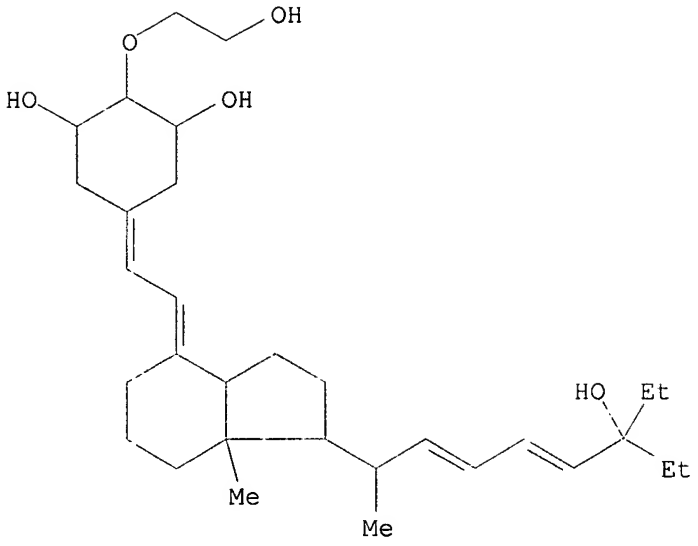
RN 681830-75-1 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[[octahydro-1-[1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, stereoisomer (9CI) (CA INDEX NAME)



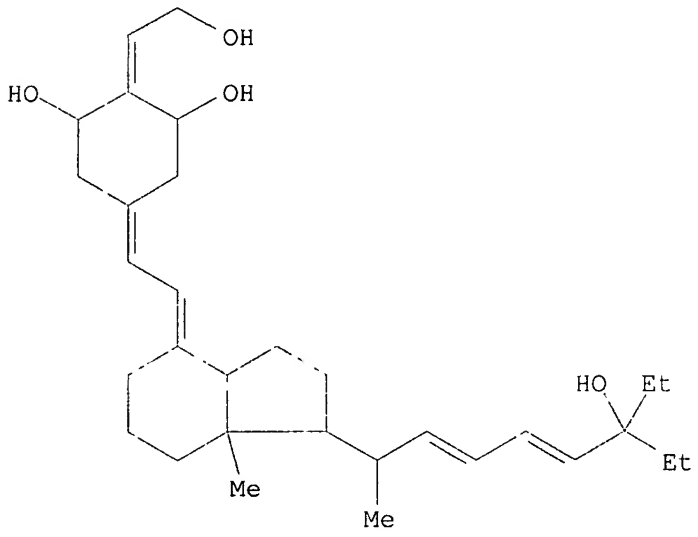
RN 681830-82-0 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-(2-hydroxyethoxy)-, stereoisomer (9CI) (CA INDEX NAME)



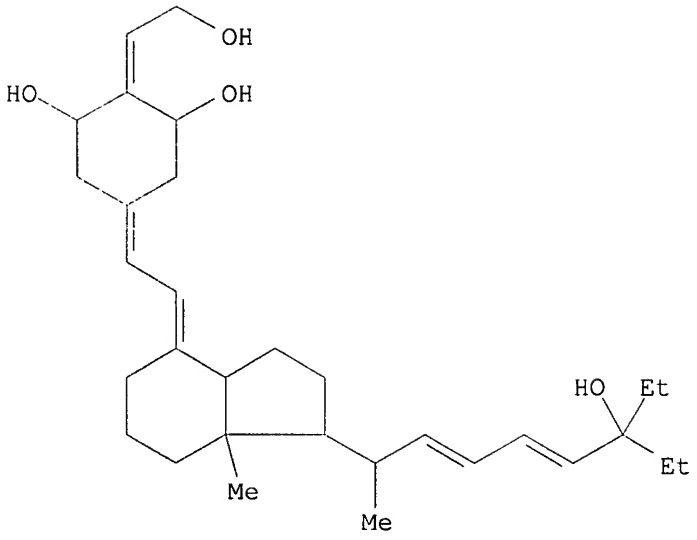
RN 681830-83-1 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-(2-hydroxyethoxy)-, stereoisomer (9CI) (CA INDEX NAME)



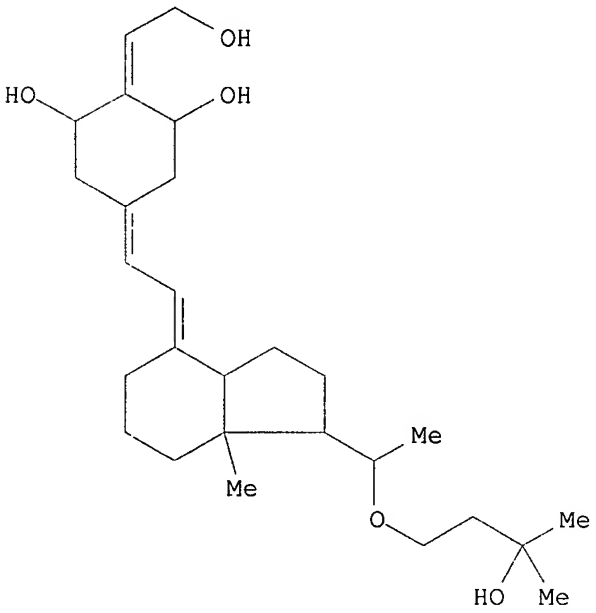
RN 681830-84-2 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-(2-hydroxyethylidene)-, stereoisomer (9CI) (CA INDEX NAME)



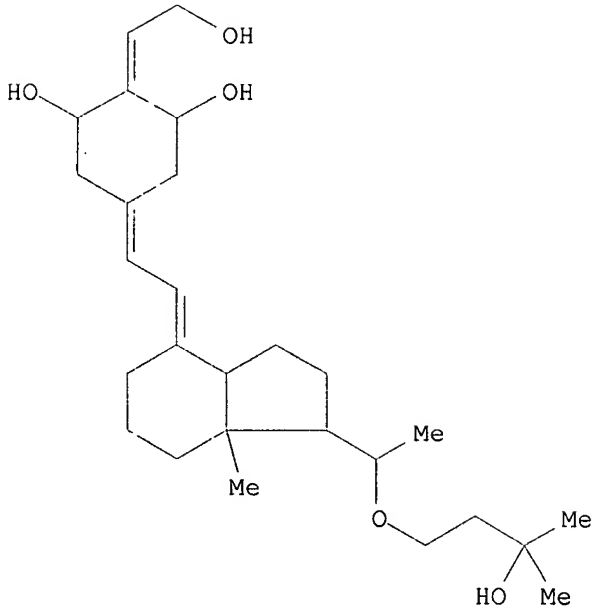
RN 681830-85-3 HCAPLUS
CN 1,3-Cyclohexanediol, 5-[[1-(6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl)octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-(2-hydroxyethylidene)-, stereoisomer (9CI) (CA INDEX NAME)



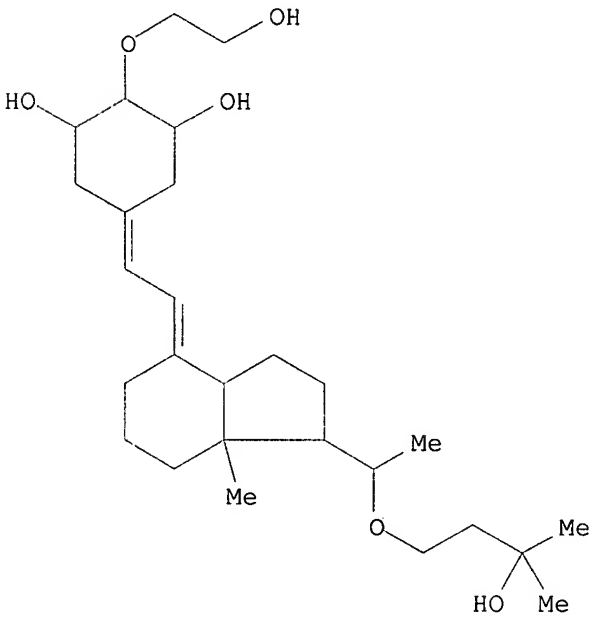
RN 897923-07-8 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2E,3R)- (9CI) (CA INDEX NAME)



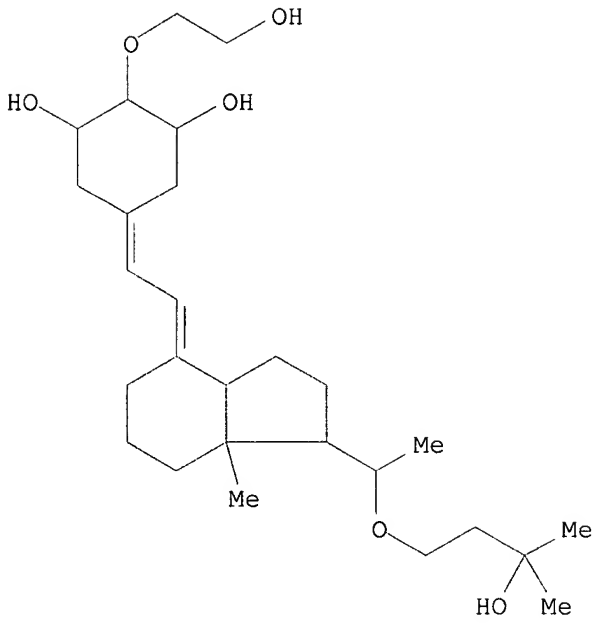
RN 897923-08-9 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethylidene)-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2Z,3R)- (9CI) (CA INDEX NAME)



RN 897923-09-0 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethoxy)-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2S,3R)- (9CI) (CA INDEX NAME)

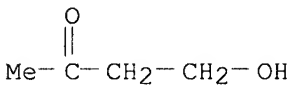


RN 897923-10-3 HCAPLUS
CN 1,3-Cyclohexanediol, 2-(2-hydroxyethoxy)-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1R,2R,3R)- (9CI) (CA INDEX NAME)

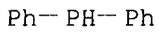


IT **590-90-9 829-85-6**, Diphenylphosphine **2537-48-6**
, Diethyl cyanomethylphosphonate **2916-76-9**, Methyl
trimethylsilylacetate **86864-60-0 141404-09-3**
147725-62-0 147725-63-1 159685-68-4
681433-96-5 681434-23-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and vitamin D receptor binding activity of new
1α,25-dihydroxy-19-norvitamin D3 analogs with modifications in
both the A-ring and the side chain)

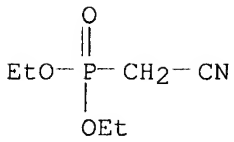
RN 590-90-9 HCAPLUS
CN 2-Butanone, 4-hydroxy- (8CI, 9CI) (CA INDEX NAME)



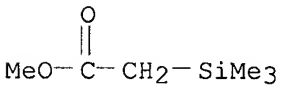
RN 829-85-6 HCAPLUS
CN Phosphine, diphenyl- (6CI, 8CI, 9CI) (CA INDEX NAME)



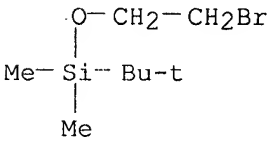
RN 2537-48-6 HCAPLUS
CN Phosphonic acid, (cyanomethyl)-, diethyl ester (7CI, 8CI, 9CI) (CA INDEX
NAME)



RN 2916-76-9 HCAPLUS
CN Acetic acid, (trimethylsilyl)-, methyl ester (7CI, 8CI, 9CI) (CA INDEX NAME)

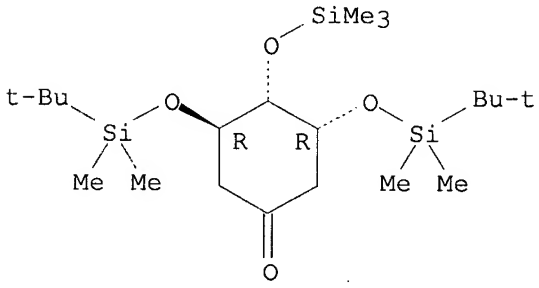


RN 86864-60-0 HCAPLUS
CN Silane, (2-bromoethoxy)(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



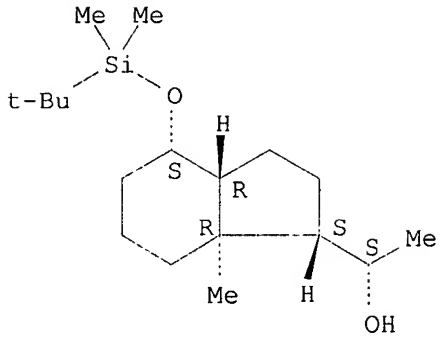
RN 141404-09-3 HCAPLUS
CN Cyclohexanone, 3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(trimethylsilyl)oxy]-, [3R-(3α,4α,5β)]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



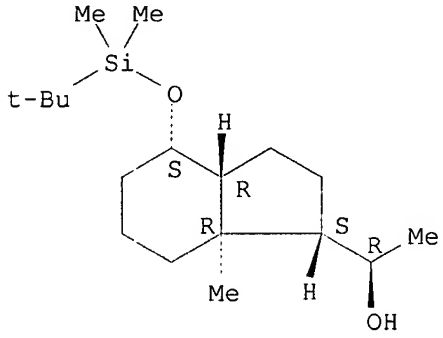
RN 147725-62-0 HCAPLUS
CN 1H-Indene-1-methanol, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]octahydro-α,7a-dimethyl-, (αS,1S,3aR,4S,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



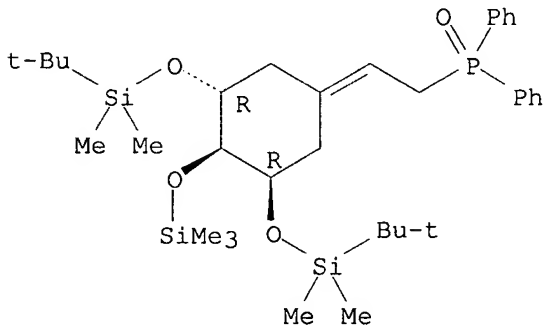
RN 147725-63-1 HCAPLUS
CN 1H-Indene-1-methanol, 4-[[(1,1-dimethylethyl)dimethylsilyl]oxy]octahydro-α,7a-dimethyl-, (αR,1S,3aR,4S,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



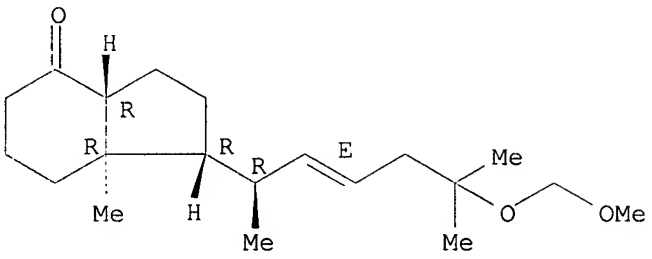
RN 159685-68-4 HCAPLUS
CN Phosphine oxide, [(3R,5R)-2-[3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(trimethylsilyl)oxy]cyclohexylidene]ethyl]diphenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



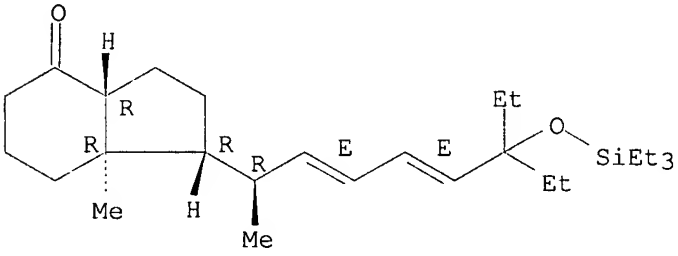
RN 681433-96-5 HCAPLUS
CN 4H-Inden-4-one, octahydro-1-[(1R,2E)-5-(methoxymethoxy)-1,5-dimethyl-2-hexenyl]-7a-methyl-, (1R,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

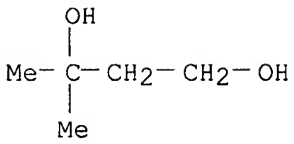


RN 681434-23-1 HCAPLUS
CN 4H-Inden-4-one, 1-[(1R,2E,4E)-6-ethyl-1-methyl-6-[(triethylsilyl)oxy]-2,4-octadienyl]octahydro-7a-methyl-, (1R,3aR,7aR)- (9CI) (CA INDEX NAME)

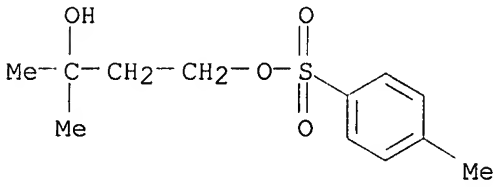
Absolute stereochemistry.
Double bond geometry as shown.



IT **2568-33-4P 17689-66-6P 192573-37-8P**
681433-60-3P 681433-62-5P 681433-78-3P
681433-79-4P 681433-80-7P 681433-81-8P
681433-91-0P 681433-92-1P 681433-93-2P
681433-94-3P 681433-95-4P 681433-98-7P
681433-99-8P 681434-00-4P 681434-01-5P
681434-02-6P 681434-03-7P 681434-04-8P
681434-05-9P 681434-06-0P 681434-08-2P
681434-09-3P 681434-10-6P 681434-11-7P
681434-12-8P 681434-13-9P 681434-14-0P
681434-16-2P 681434-17-3P 681434-18-4P
681434-19-5P 681434-22-0P 681830-90-0P
681830-91-1P 681830-92-2P 681831-07-2P
681831-08-3P 681831-10-7P 681856-70-2P
681856-71-3P 884488-07-7P 897657-83-9P
897657-84-0P 897657-85-1P 897657-86-2P
897657-87-3P 897657-88-4P 897657-89-5P
897657-90-8P 897657-91-9P 897657-92-0P
897923-05-6P 897923-06-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and vitamin D receptor binding activity of new 1α,25-dihydroxy-19-norvitamin D3 analogs with modifications in both the A-ring and the side chain)
RN 2568-33-4 HCAPLUS
CN 1,3-Butanediol, 3-methyl- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

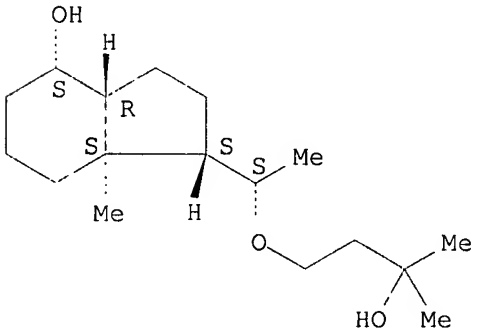


RN 17689-66-6 HCAPLUS
CN 1,3-Butanediol, 3-methyl-, 1-(4-methylbenzenesulfonate) (9CI) (CA INDEX NAME)



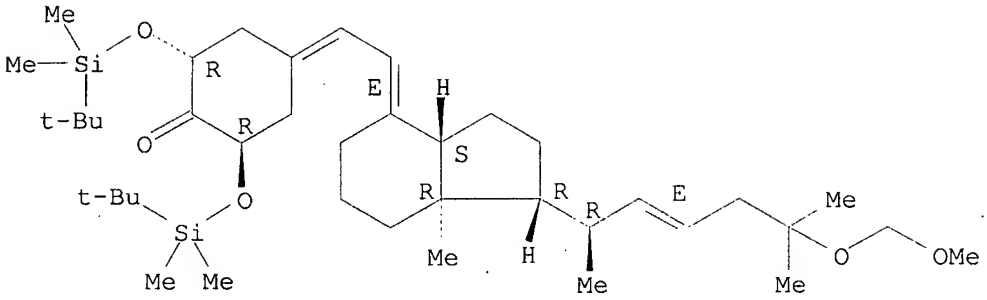
RN 192573-37-8 HCAPLUS
CN 1H-Inden-4-ol, octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-, (1S,3aR,4S,7aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



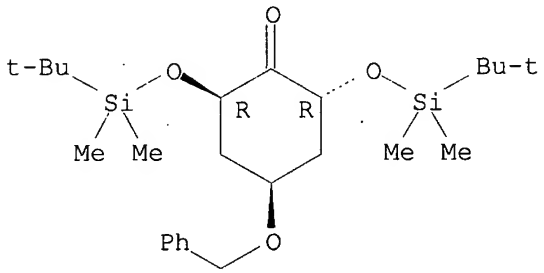
RN 681433-60-3 HCAPLUS
CN Cyclohexanone, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-(methoxymethoxy)-1,5-dimethyl-2-hexenyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



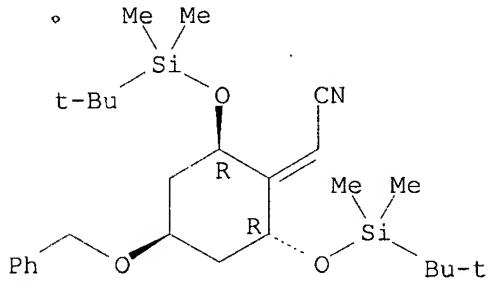
RN 681433-62-5 HCAPLUS
CN Cyclohexanone, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(phenylmethoxy)-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



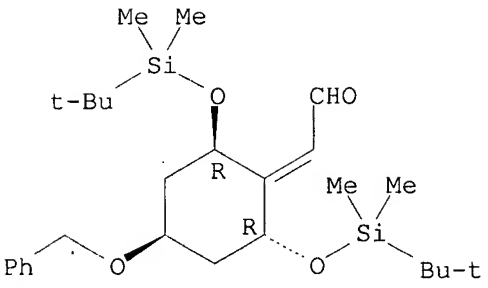
RN 681433-78-3 HCAPLUS
CN Acetonitrile, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(phenylmethoxy)cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



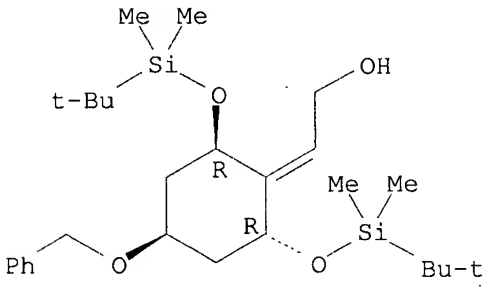
RN 681433-79-4 HCAPLUS
CN Acetaldehyde, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(phenylmethoxy)cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



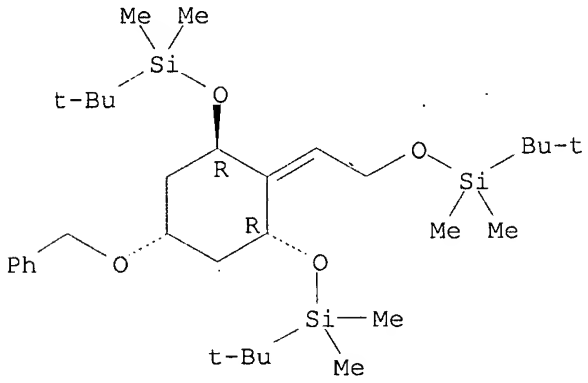
RN 681433-80-7 HCAPLUS
CN Ethanol, 2-[(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(phenylmethoxy)cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



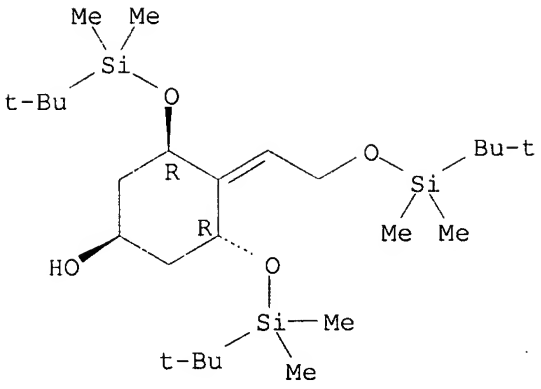
RN 681433-81-8 HCAPLUS
CN Silane, [[(1R,3R)-2-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]-5-(phenylmethoxy)-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



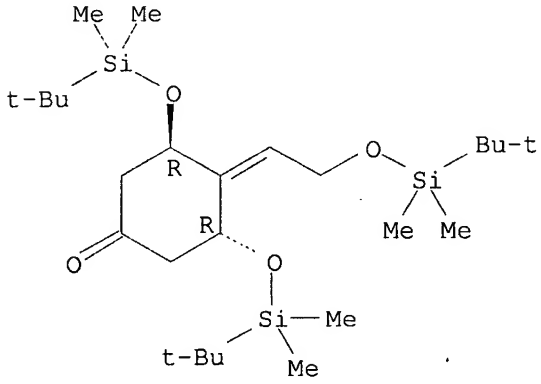
RN 681433-91-0 HCAPLUS
CN Cyclohexanol, 3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]-, (3R,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



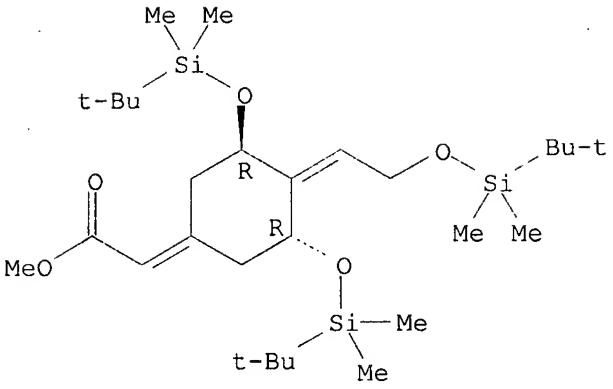
RN 681433-92-1 HCAPLUS
CN Cyclohexanone, 3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]-, (3R,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



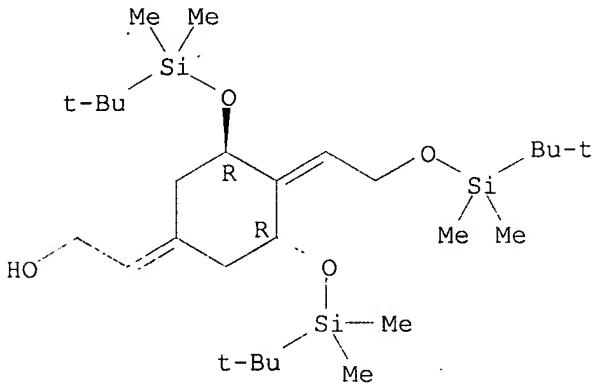
RN 681433-93-2 HCAPLUS
CN Acetic acid, [(3R,5R)-3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]cyclohexylidene]-, methyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.



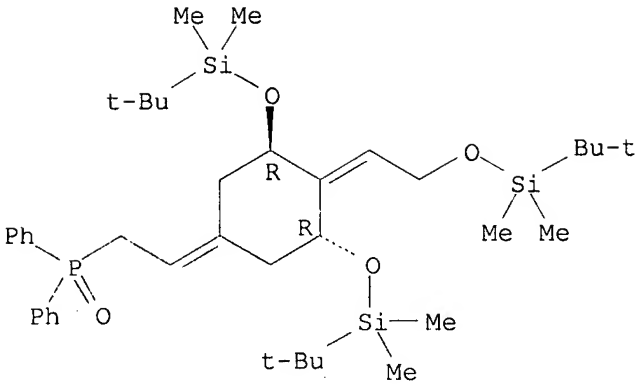
RN 681433-94-3 HCAPLUS
CN Ethanol, 2-[(3R,5R)-3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



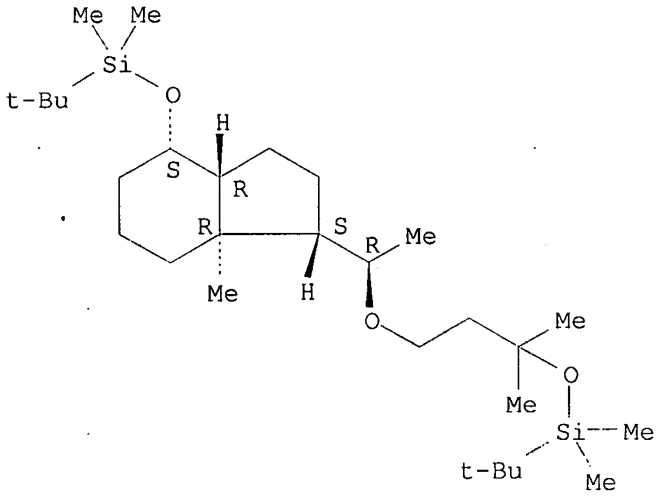
RN 681433-95-4 HCAPLUS
CN Phosphine oxide, [2-[(3R,5R)-3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]cyclohexylidene]ethyl]diphenyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



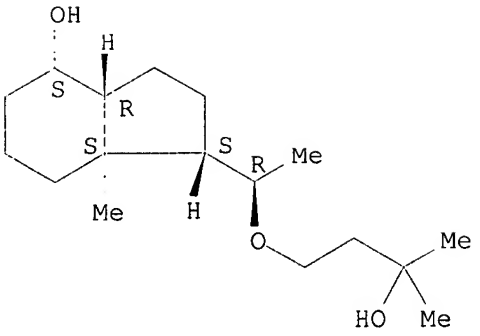
RN 681433-98-7 HCAPLUS
CN Silane, (1,1-dimethylethyl)[[(1S,3aR,4S,7aR)-1-[(1R)-1-[3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-3-methylbutoxy]ethyl]octahydro-7a-methyl-1H-inden-4-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



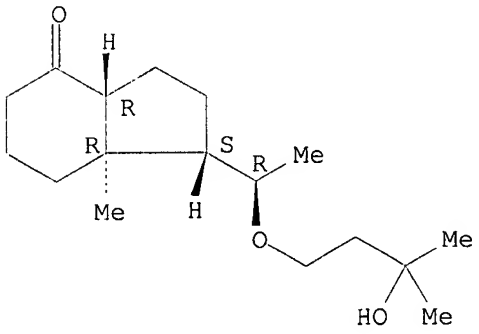
RN 681433-99-8 HCAPLUS
CN 1H-Inden-4-ol, octahydro-1-[(1R)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-, (1S,3aR,4S,7aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



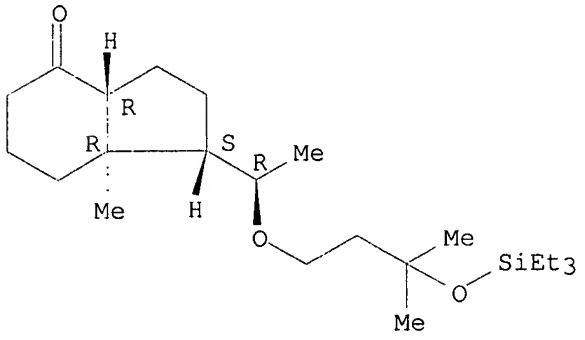
RN 681434-00-4 HCAPLUS
CN 4H-Inden-4-one, octahydro-1-[(1R)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-, (1S,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



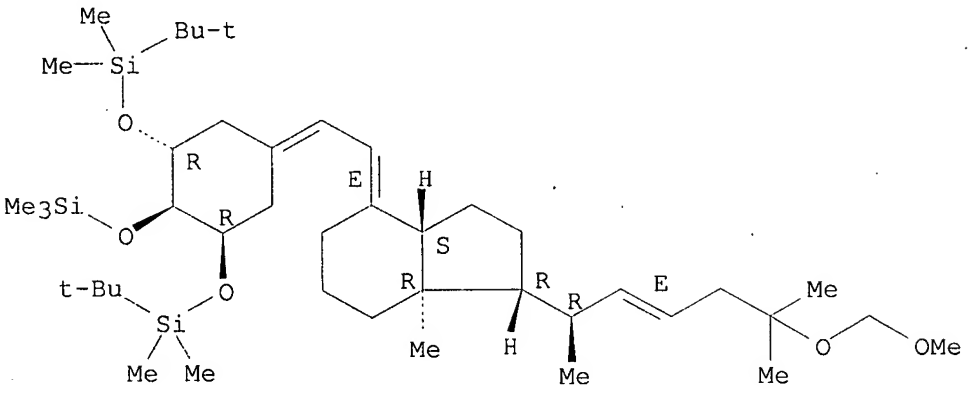
RN 681434-01-5 HCAPLUS
CN 4H-Inden-4-one, octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-, (1S,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



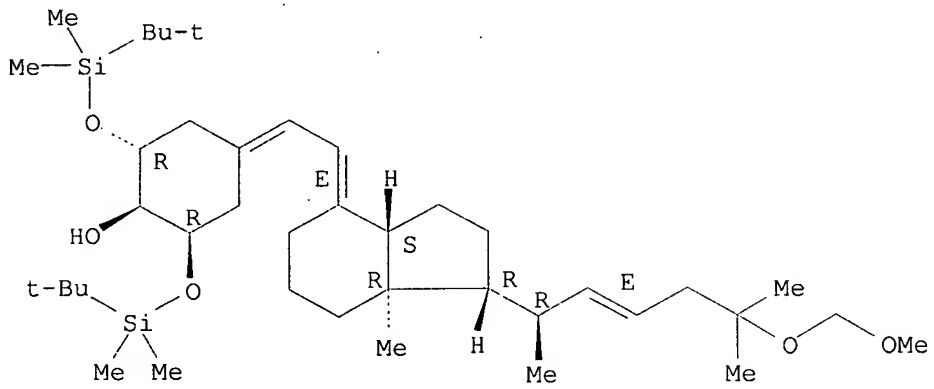
RN 681434-02-6 HCAPLUS
CN Silane, [[(1α,2α,3β,7E,22E)-25-(methoxymethoxy)-2-[(trimethylsilyl)oxy]-19-nor-9,10-secocholesta-5,7,22-triene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 681434-03-7 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-(methoxymethoxy)-1,5-dimethyl-2-hexenyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

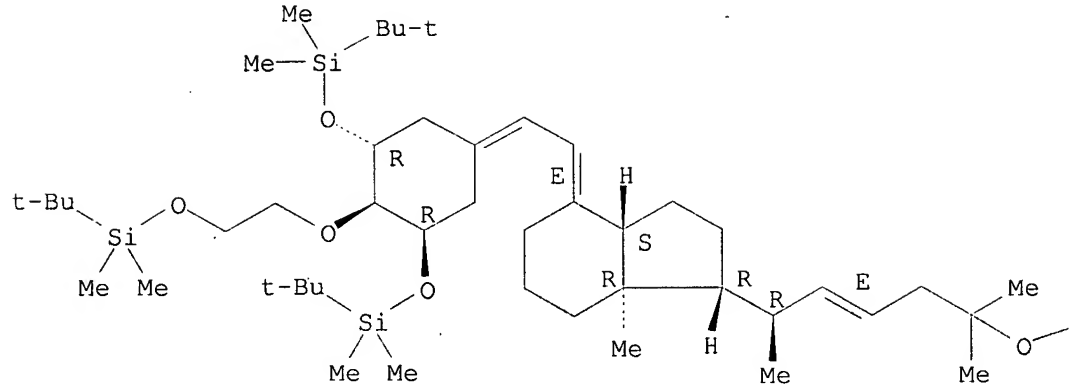
Absolute stereochemistry.
Double bond geometry as shown.



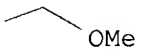
RN 681434-04-8 HCAPLUS
CN Silane, [[(1α,2α,3β,7E,22E)-2-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethoxy]-25-(methoxymethoxy)-19-nor-9,10-secocholesta-5,7,22-triene-1,3-diyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

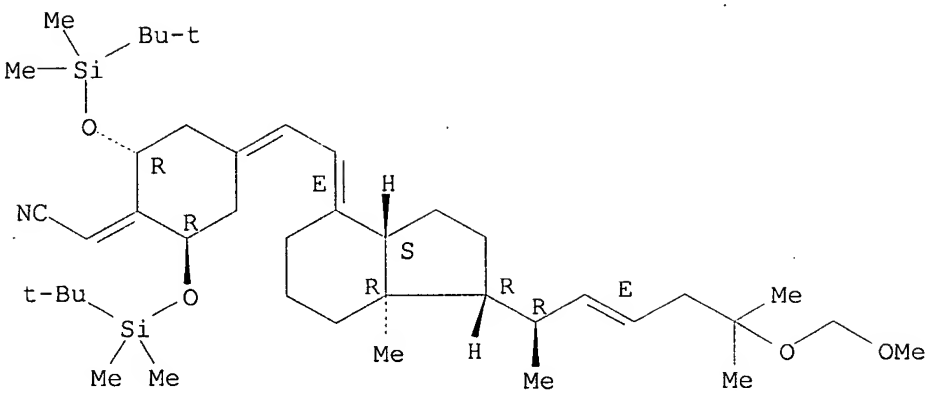


PAGE 1-B



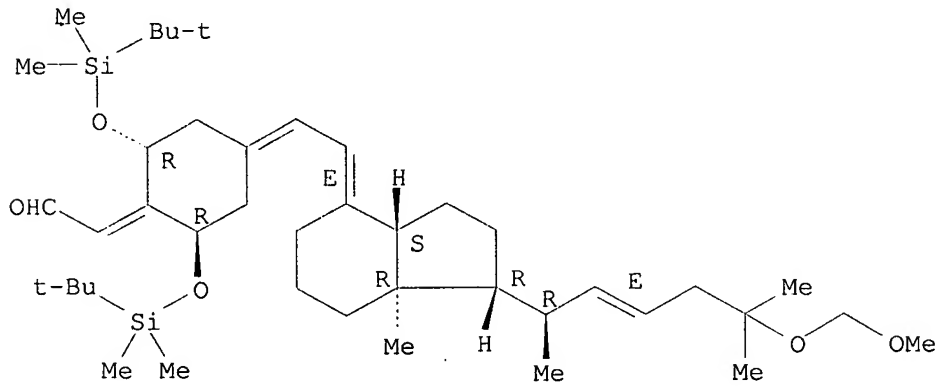
RN 681434-05-9 HCAPLUS
CN Acetonitrile, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-(methoxymethoxy)-1,5-dimethyl-2-hexenyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



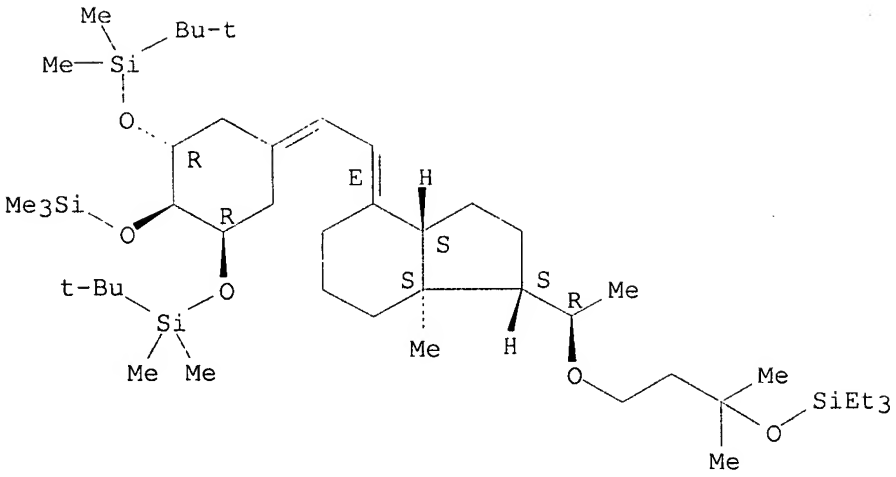
RN 681434-06-0 HCAPLUS
CN Acetaldehyde, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-octahydro-1-[(1R,2E)-5-(methoxymethoxy)-1,5-dimethyl-2-hexenyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



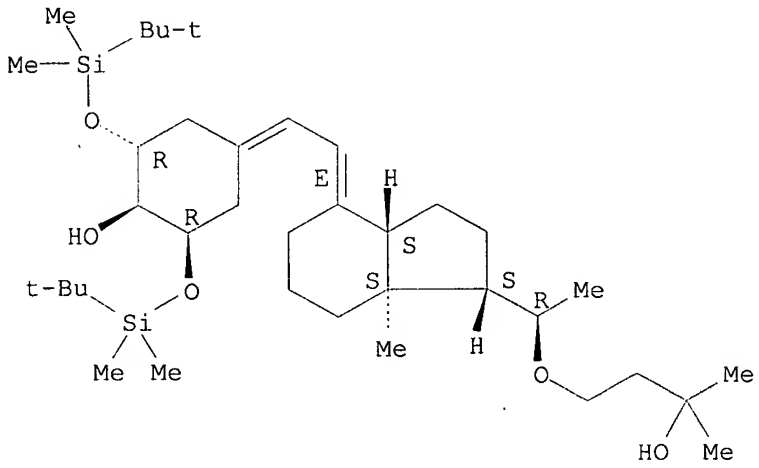
RN 681434-08-2 HCAPLUS
CN Silane, [[(1R,3R)-5-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]-2-[(trimethylsilyl)oxy]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



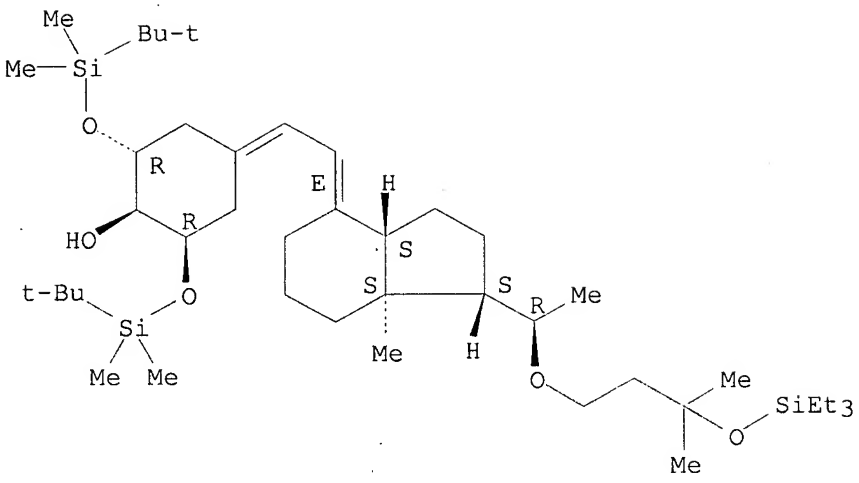
RN 681434-09-3 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1R)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



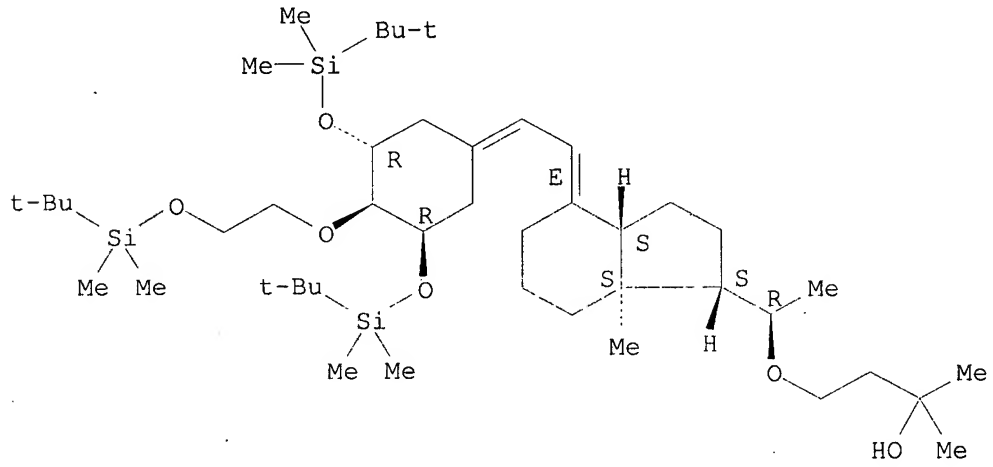
RN 681434-10-6 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



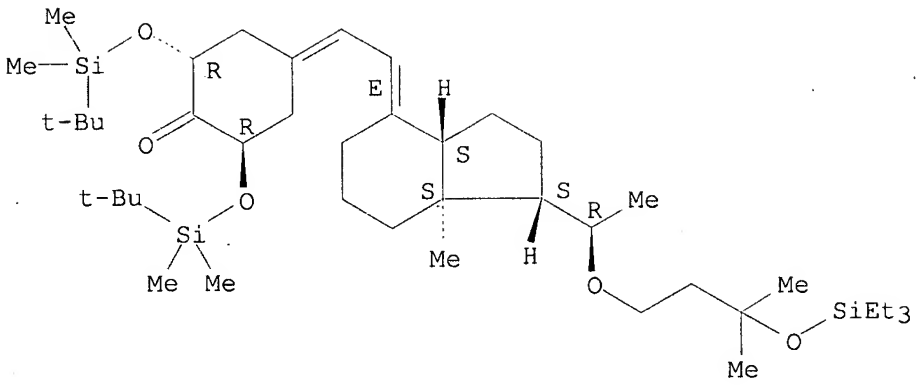
RN 681434-11-7 HCAPLUS
CN 2-Butanol, 4-[(1R)-1-[(1S,3aS,4E,7aS)-4-[[3,5-bis[[(3R,5R)-(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethoxy]cyclohexylidene]ethylidene]octahydro-7a-methyl-1H-inden-1-yl]ethoxy]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



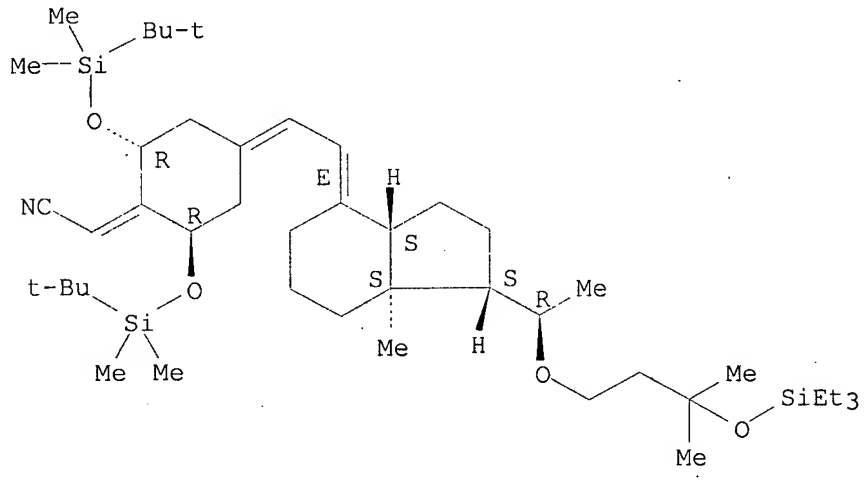
RN 681434-12-8 HCAPLUS
CN Cyclohexanone, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



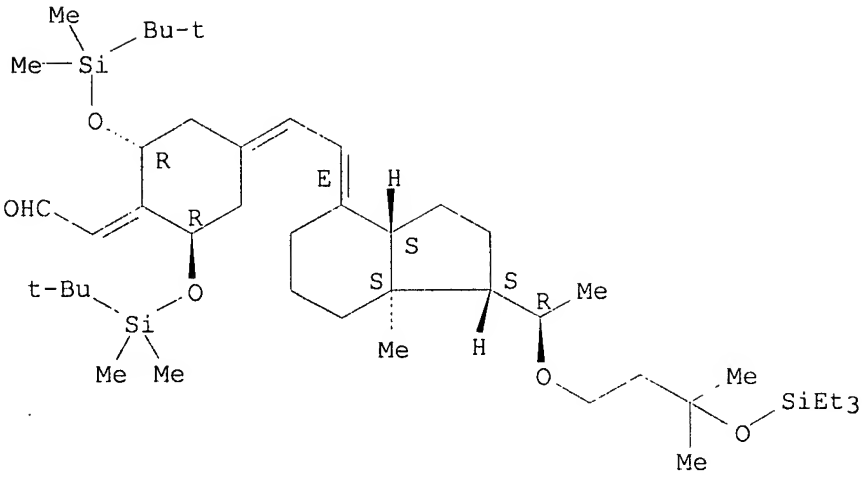
RN 681434-13-9 HCAPLUS
CN Acetonitrile, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



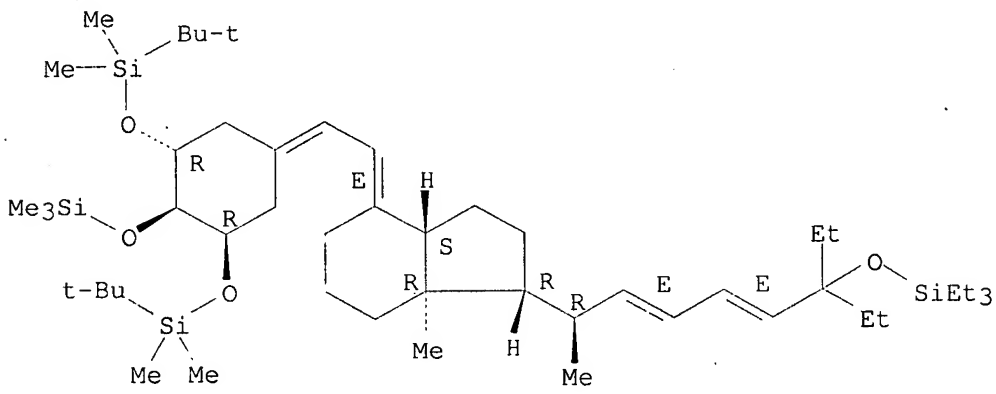
RN 681434-14-0 HCAPLUS
CN Acetaldehyde, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1R)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



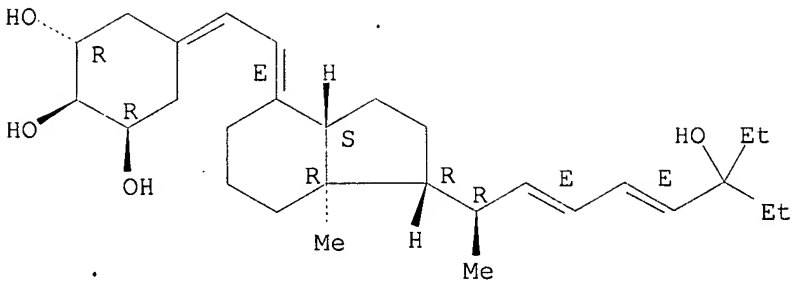
RN 681434-16-2 HCAPLUS
CN Silane, [[(1R,3R)-5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-1-methyl-6-[(triethylsilyl)oxy]-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-[(trimethylsilyl)oxy]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



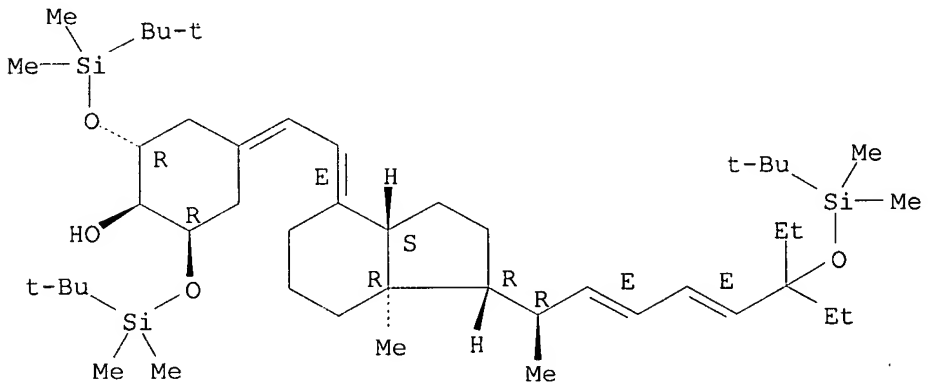
RN 681434-17-3 HCAPLUS
CN 1,2,3-Cyclohexanetriol, 5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-6-hydroxy-1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 681434-18-4 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-6-ethyl-1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

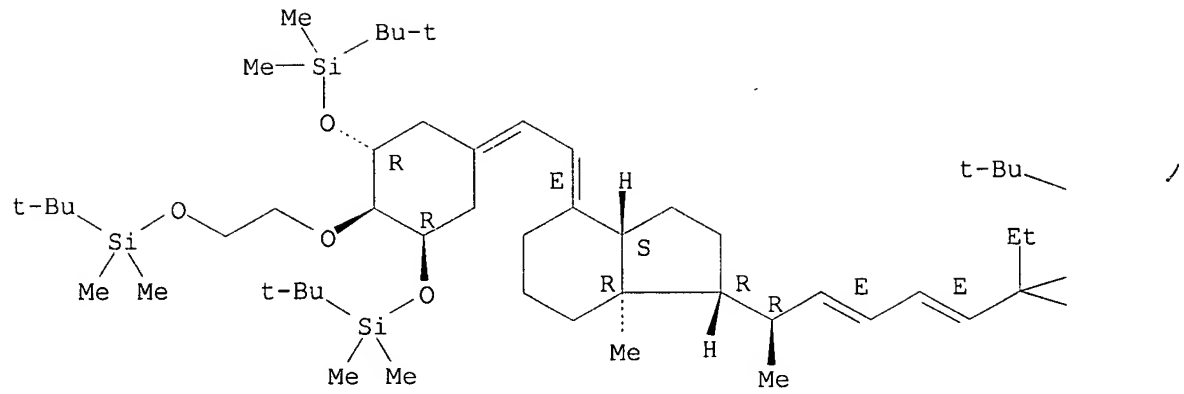
Absolute stereochemistry.
Double bond geometry as shown.



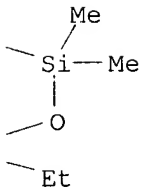
RN 681434-19-5 HCAPLUS
CN Silane, [[(1R,3R)-2-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethoxy]-5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-6-ethyl-1-methyl-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

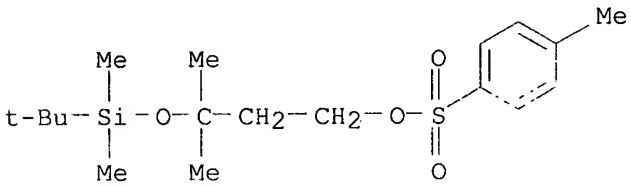
PAGE 1-A



PAGE 1-B

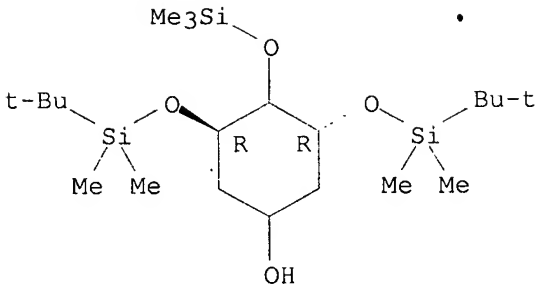


RN 681434-22-0 HCAPLUS
CN 1-Butanol, 3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-3-methyl-, 4-methylbenzenesulfonate (9CI) (CA INDEX NAME)



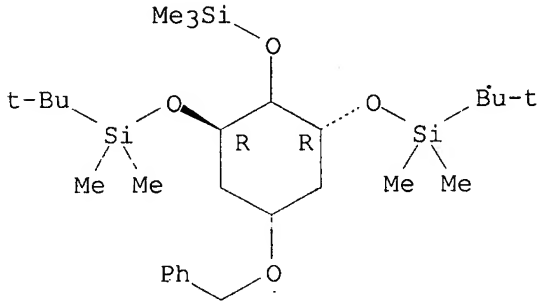
RN 681830-90-0 HCAPLUS
CN Cyclohexanol, 3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(trimethylsilyl)oxy]-, (3R,5R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



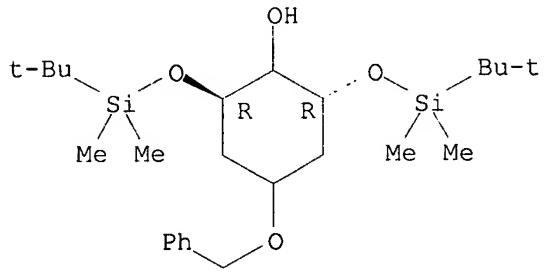
RN 681830-91-1 HCAPLUS
CN Silane, [[(1R,3R)-5-(phenylmethoxy)-2-[(trimethylsilyl)oxy]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

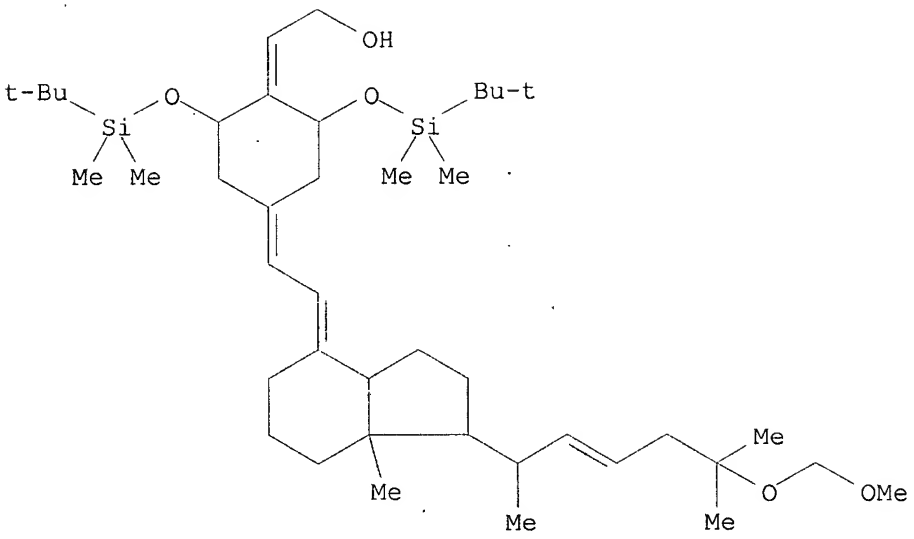


RN 681830-92-2 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(phenylmethoxy)-, (2R,6R)- (9CI) (CA INDEX NAME)

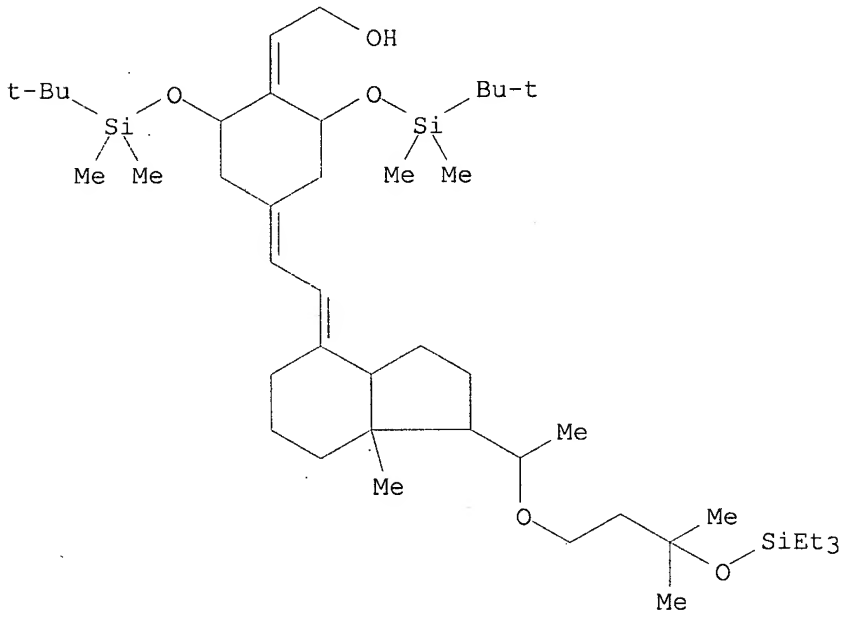
Absolute stereochemistry.



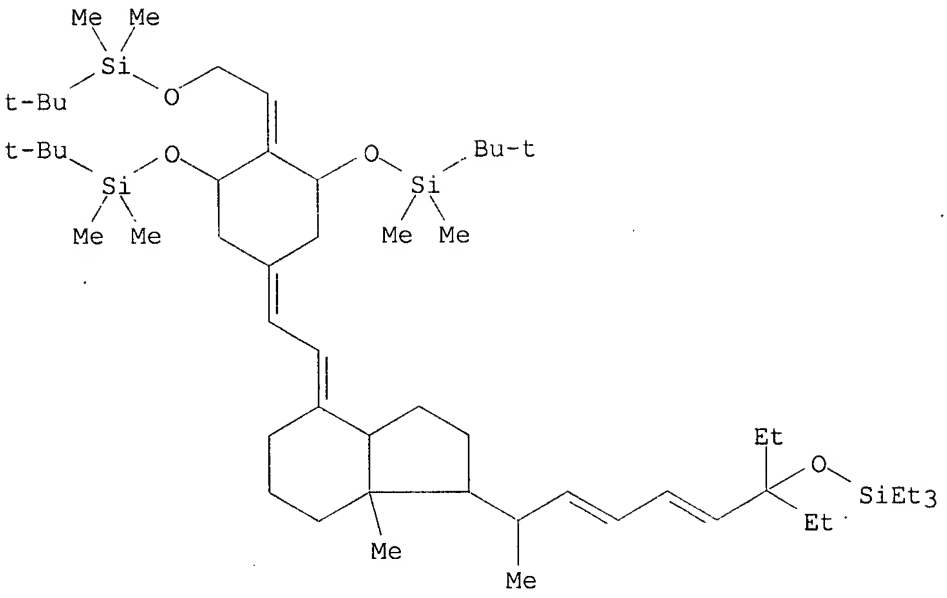
RN 681831-07-2 HCAPLUS
CN Ethanol, 2-[(1α,3β,7E,22E)-1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-(methoxymethoxy)-19-nor-9,10-secocholesta-5,7,22-trien-2-ylidene]-, (2E)- (9CI) (CA INDEX NAME)



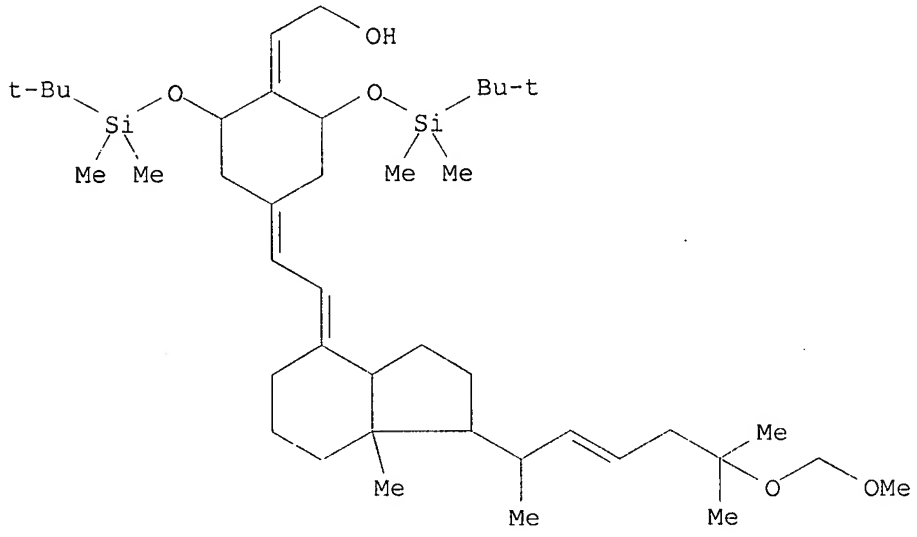
RN 681831-08-3 HCAPLUS
CN Ethanol, 2-[2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[[octahydro-7a-methyl-1-[1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]cyclohexylidene]-, stereoisomer (9CI) (CA INDEX NAME)



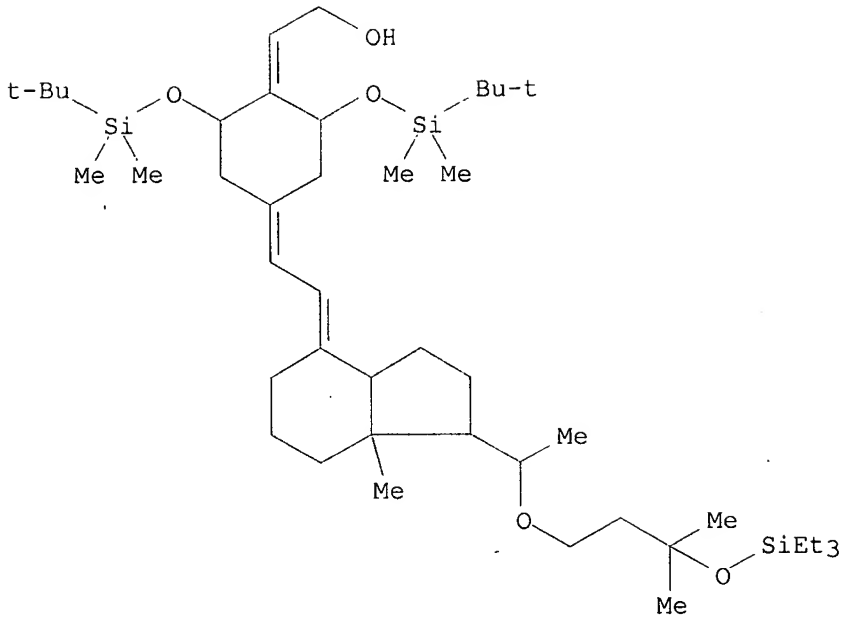
RN 681831-10-7 HCAPLUS
CN Silane, [[(1R,3R)-2-[(1E)-2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethylidene]-5-[(2E)-[(1R,3aS,7aR)-1-[(1R,2E,4E)-6-ethyl-1-methyl-6-[(triethylsilyl)oxy]-2,4-octadienyl]octahydro-7a-methyl-4H-inden-4-ylidene]ethylidene]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)



RN 681856-70-2 HCAPLUS
CN Ethanol, 2-[(1α,3β,7E,22E)-1,3-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-25-(methoxymethoxy)-19-nor-9,10-secocholesta-5,7,22-trien-2-ylidene]-, (2Z)- (9CI) (CA INDEX NAME)

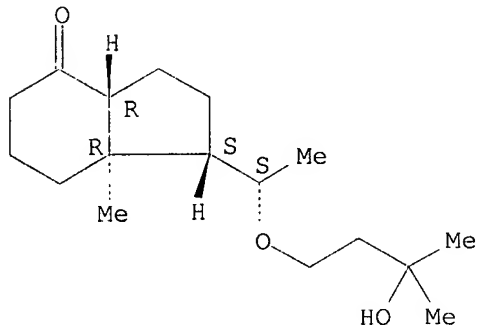


RN 681856-71-3 HCAPLUS
CN Ethanol, 2-[2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[[octahydro-7a-methyl-1-[1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]cyclohexylidene]-, stereoisomer (9CI) (CA INDEX NAME)



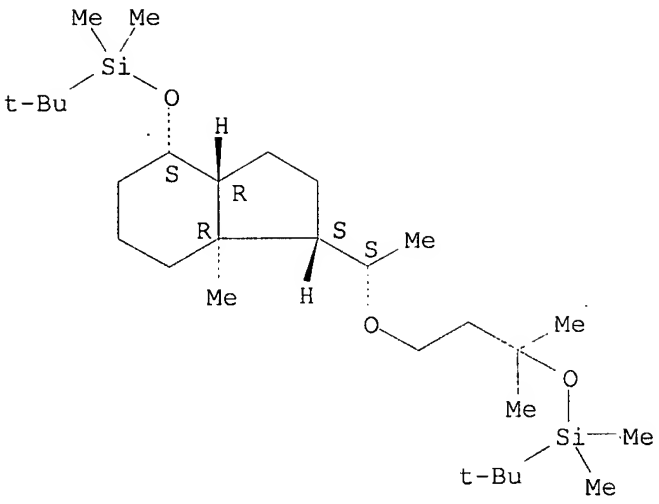
RN 884488-07-7 HCAPLUS
CN 4H-Inden-4-one, octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-, (1S,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



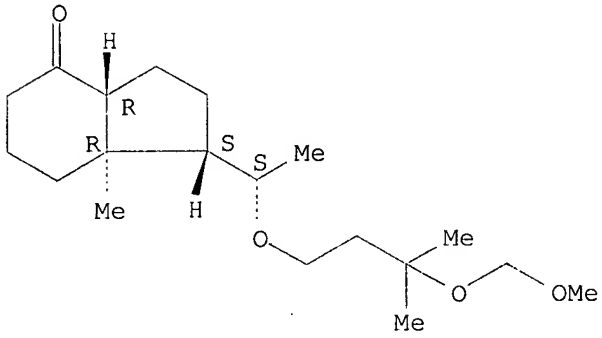
RN 897657-83-9 HCAPLUS
CN Silane, (1,1-dimethylethyl)[[(1S,3aR,4S,7aR)-1-[(1S)-1-[3-[[(1,1-dimethylethyl)dimethylsilyl]oxy]-3-methylbutoxy]ethyl]octahydro-7a-methyl-1H-inden-4-yl]oxy]dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



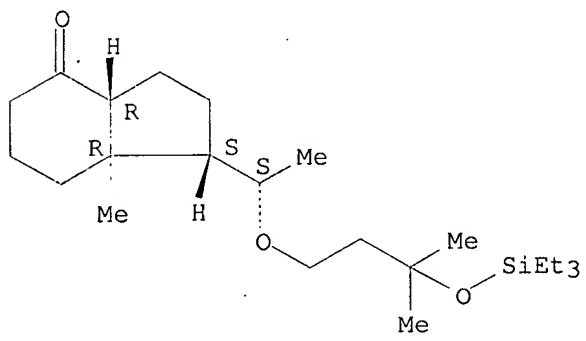
RN 897657-84-0 HCAPLUS
CN 4H-Inden-4-one, octahydro-1-[(1S)-1-[3-(methoxymethoxy)-3-methylbutoxy]ethyl]-7a-methyl-, (1S,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



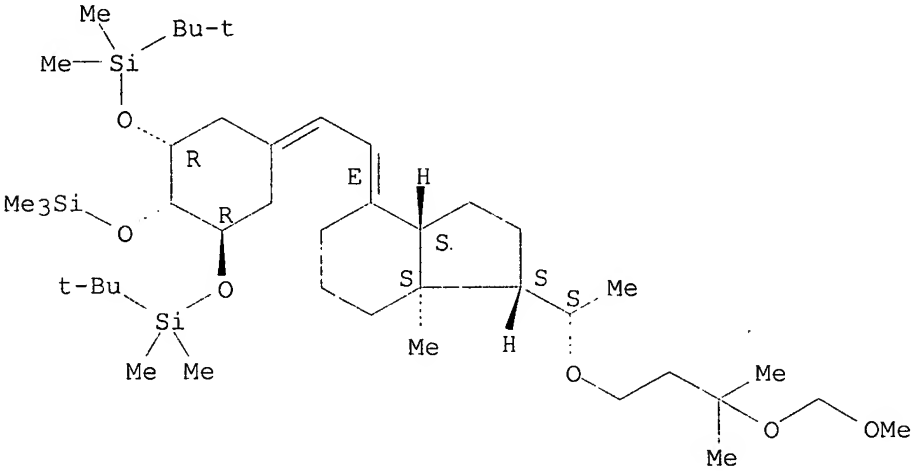
RN 897657-85-1 HCAPLUS
CN 4H-Inden-4-one, octahydro-7a-methyl-1-[(1S)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-, (1S,3aR,7aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



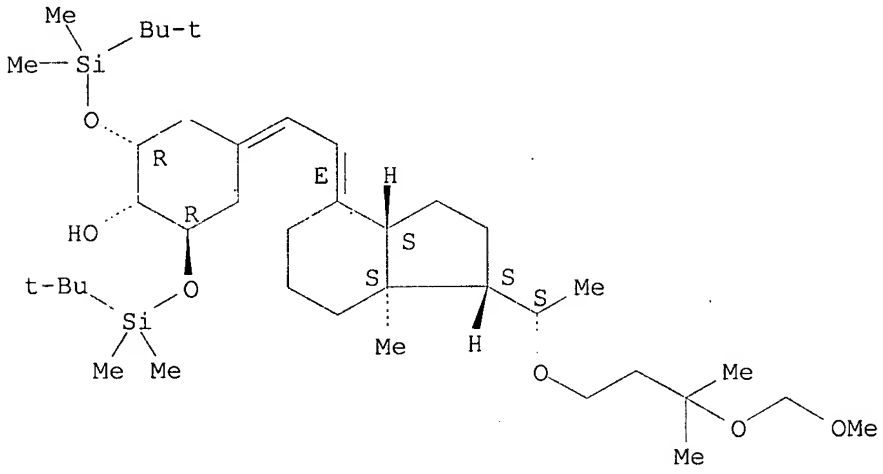
RN 897657-86-2 HCAPLUS
CN Silane, [[(1R,3R)-5-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-[3-(methoxymethoxy)-3-methylbutoxy]ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-2-[(trimethylsilyl)oxy]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 897657-87-3 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-[3-(methoxymethoxy)-3-methylbutoxy]ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1α,2α,6β)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

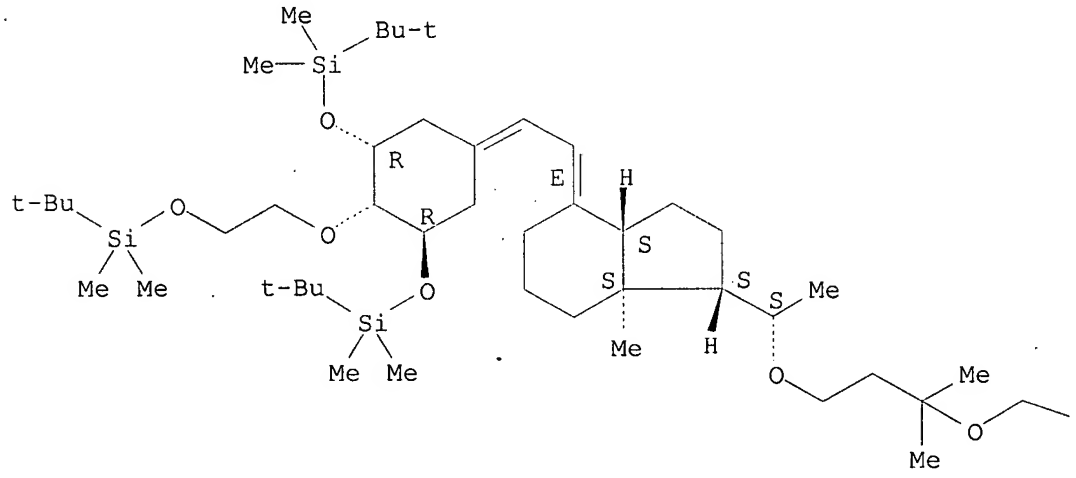


RN 897657-88-4 HCAPLUS
CN Silane, [[(1R,3R)-2-[2-[[(1,1-dimethylethyl)dimethylsilyl]oxy]ethoxy]-5-

[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-[3-(methoxymethoxy)-3-methylbutoxy]ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A

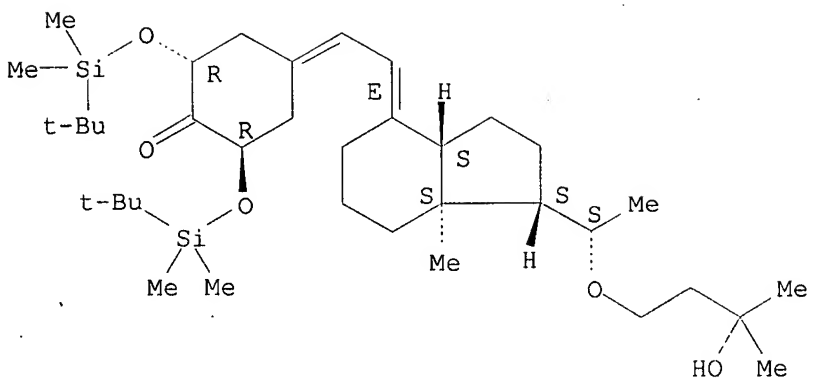


PAGE 1-B

OMe

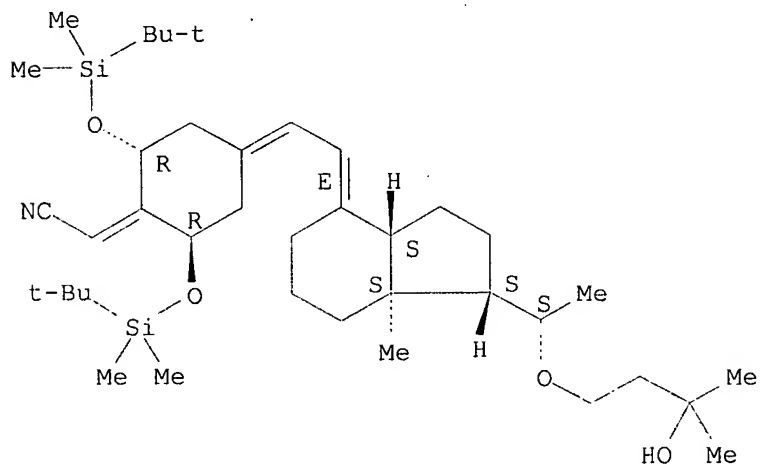
RN 897657-89-5 HCAPLUS
CN Cyclohexanone, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



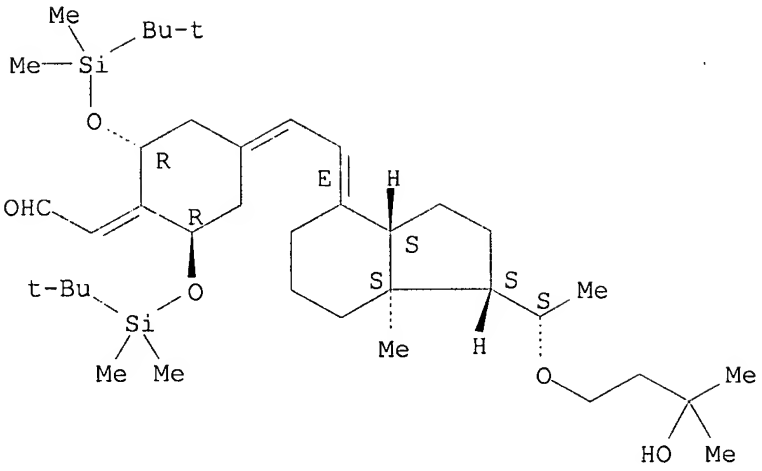
RN 897657-90-8 HCAPLUS
CN Acetonitrile, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



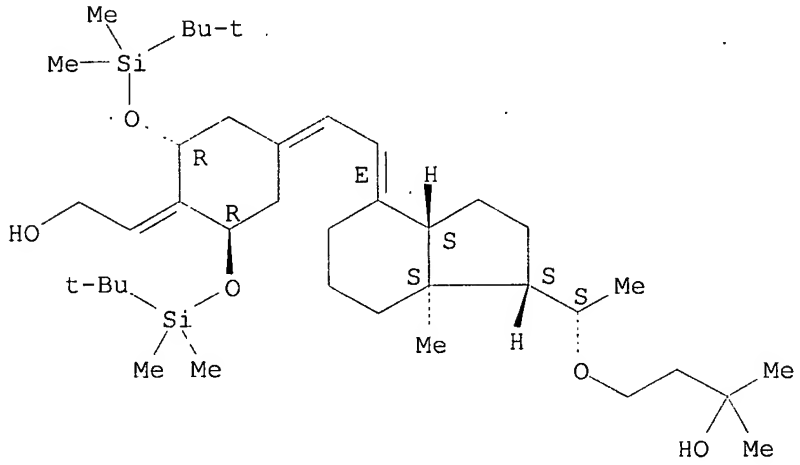
RN 897657-91-9 HCAPLUS
CN Acetaldehyde, [(2R,6R)-2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]cyclohexylidene]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



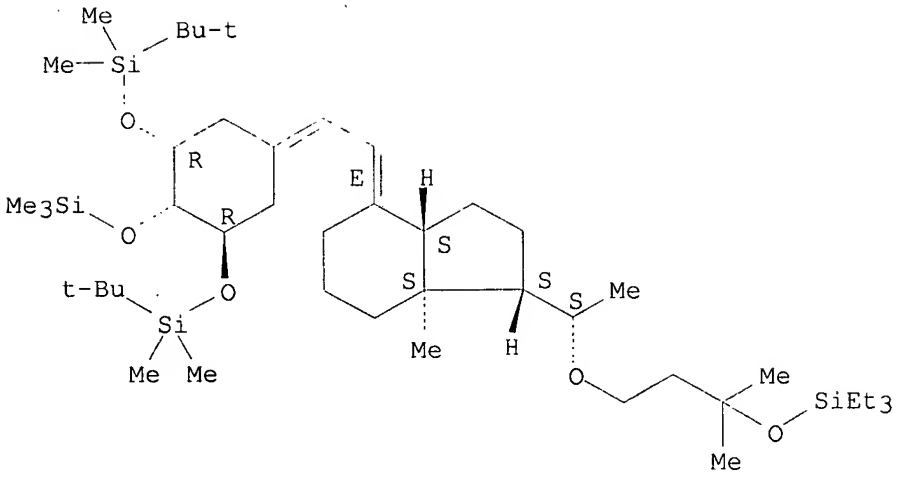
RN 897657-92-0 HCAPLUS
CN 2-Butanol, 4-[(1S)-1-[(1S,3aS,4E,7aS)-4-[[(3R,5R)-3,5-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-(2-hydroxyethylidene)cyclohexylidene]ethylidene]octahydro-7a-methyl-1H-inden-1-yl]ethoxy]-2-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



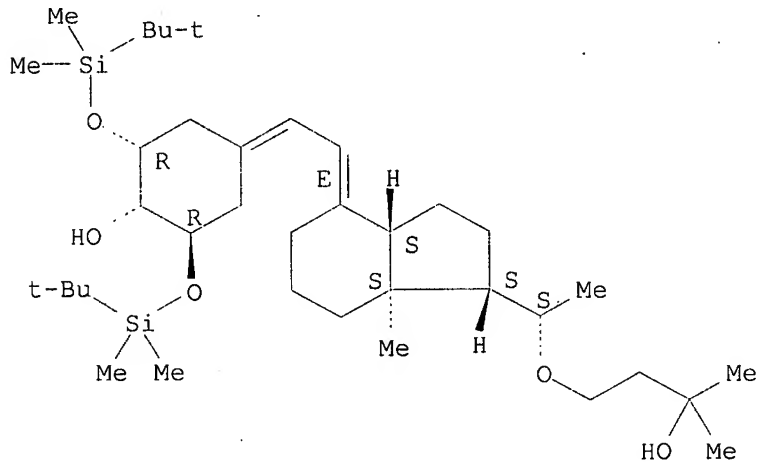
RN 897923-05-6 HCAPLUS
CN Silane, [[(1R,3R)-5-[(2E)-[(1S,3aS,7aS)-octahydro-7a-methyl-1-[(1S)-1-[3-methyl-3-[(triethylsilyl)oxy]butoxy]ethyl]-4H-inden-4-ylidene]ethylidene]-2-[(trimethylsilyl)oxy]-1,3-cyclohexanediyl]bis(oxy)]bis[(1,1-dimethylethyl)dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



RN 897923-06-7 HCAPLUS
CN Cyclohexanol, 2,6-bis[[(1,1-dimethylethyl)dimethylsilyl]oxy]-4-[(2E)-[(1S,3aS,7aS)-octahydro-1-[(1S)-1-(3-hydroxy-3-methylbutoxy)ethyl]-7a-methyl-4H-inden-4-ylidene]ethylidene]-, (1S,2R,6R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT